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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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ENGINEERING AND NAVAL ARCHITECTURE.

The experiments undertaken by Cornell University in the matter of marine engineering and naval architecture will be followed with interest by all those concerned with the development of the Navy of the United States. The trustees of the University have invested about \$50,000 in a hydraulic laboratory, a part of which consists of a tank or canal suitable for experimental research in matters relating to the resistance and propulsion of ships. Prof. W. F. Durand, formerly an officer of the Engineer Corps, U. S. N., and for the past eight years in charge of the School of Marine Engineering and Naval Architecture at Cornell University, has for many years made a special study of the resistance and propulsion of ships, and in 1896 began an important series of experiments on the screw propeller. With the provision of suitable apparatus for the equipment of this canal, these investigations and many others of the highest value to the marine engineer and naval architect may be carried to completion under circumstances insuring the highest degree of accuracy. As the University has not, at present, the funds available for the immediate prosecution of this work, it is desired to appeal to American shipbuilders, ship owners and others interested in these subjects for aid in its inauguration. It is desired to raise the sum of \$5,000 which with additions the University might be able to make, would render possible the completion of the present series of experiments and the provision of the apparatus suitable for many others of nearly equal importance.

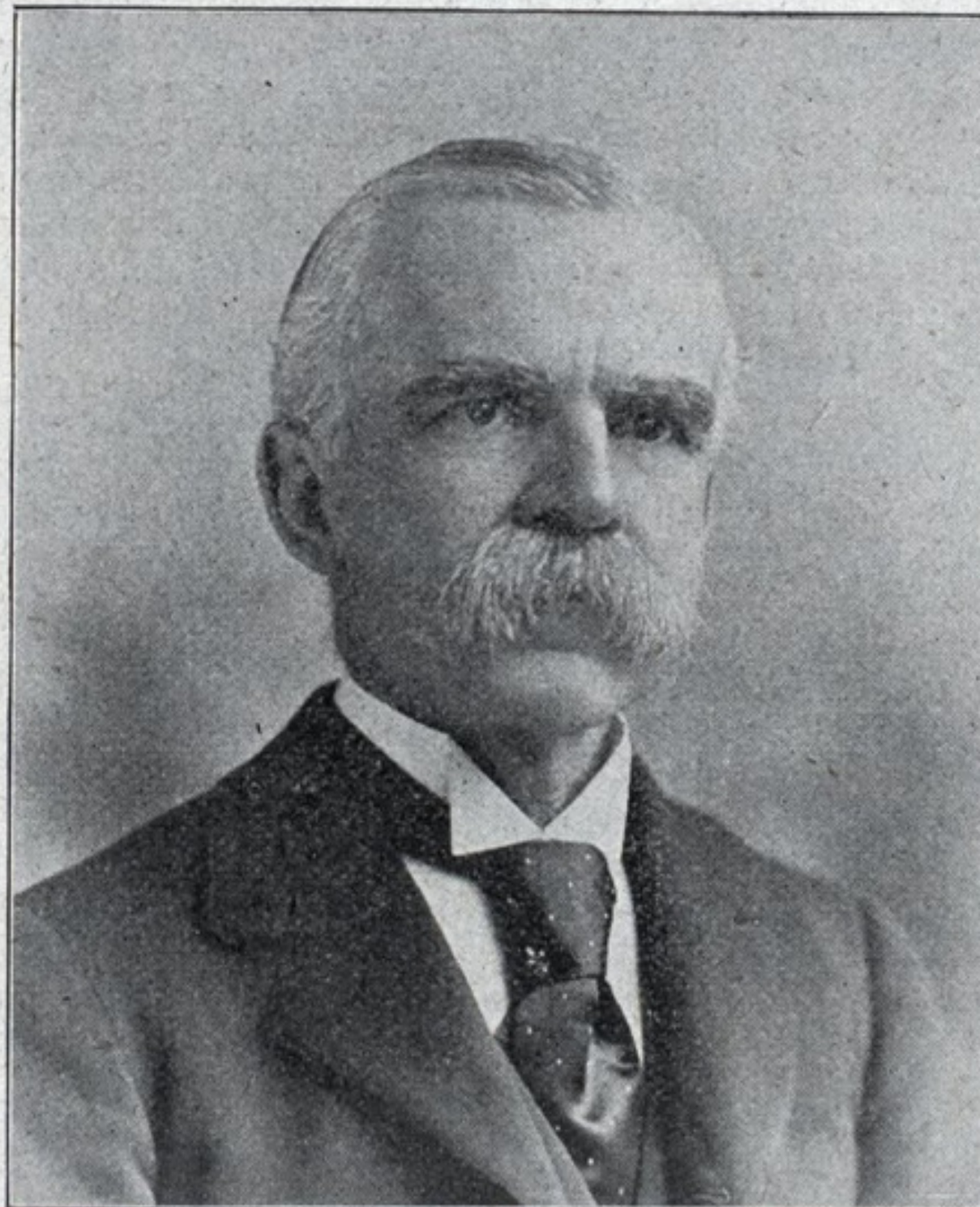
The importance of such experiments will not be gainsaid by those who are familiar with the subject, for in no part of marine design, it has been said, is there more uncertainty than in that touching the screw propeller. The purpose of these investigations is not to examine any patent of special form of propeller or to develop special ideas for personal advantage, but rather to subject standard forms and proportions to detailed examination in such a way as to add to the store of available information regarding their performance. The University authorities consider the field so large that there will be no danger of their experiments in any way interfering with similar tests made elsewhere. Readers of the Army and Navy Journal are not ignorant of the attainments of Prof. Durand, for his first published scientific communication was printed in the Journal in the fall of 1880. The future bent of his labors was shown even then by the article, which dealt with the subjects of resistance and propulsion. Since then he has written and published much on those subjects, including a book which gives the most ex-

tended discussion extant in the language on these twin themes. In Marine Engineering for May, Prof. Durand has an illustrated review of the work and scope of the School of Marine Construction at Cornell.

FRANK J. FIRTH.

Frank J. Firth, elected this year to the honorary position of President of the Lake Carriers' Association, is the president of the Erie & Western Transportation Co. He was born in Philadelphia, October 1st, 1842. He graduated in June, 1860, from the Philadelphia Polytechnic College as civil engineer, and until 1865 he was engaged in professional work on railroads in Pennsylvania, which have since become part of the Pennsylvania Railroad system. In 1865 he became auditor of the Empire Line, and continued this office until 1873, from which time until 1879 he was its vice-president and manager. In January, 1868, he was also made the auditor of the Erie & Western Transportation Co., in 1872 its vice-president, and since 1881 has been its president.

Mr. Firth's connection with the lake business has brought him in contact with the great questions relating to



MR. FRANK J. FIRTH,
President Lake Carriers' Association.

inland navigation. He was the first to suggest the organization of the Lake Carriers' Association, in 1885, and drew up its original articles of incorporation. His influence has always been exerted in increasing the efficiency of the lake service, and reducing the risks of navigation, and he has been untiring in advocating deeper channels and better lights on the lakes. He is thoroughly conversant with the lake marine, and directed the construction of nearly all of the Anchor Line fleet of high-classed steamers.

IMPORTANT naval works are now in progress at the Dry Tortugas. Great steel coal sheds are being built and equipped with the most modern machinery for the rapid handling of large quantities of coal and it is proposed to store 40,000 tons at this point. The distilling plant which is nearly finished will have a capacity of 60,000 gallons of fresh water a day. When all these works are completed the Dry Tortugas will be capable of caring for any number of naval vessels. It is said to be the only harbor between Chesapeake Bay and the mouth of the Rio Grande river where battleships can fuel in time of necessity.

VACCINATION.

OFFICE OF MEDICAL OFFICER IN COMMAND,
MARINE HOSPITAL SERVICE,
PORT OF CHICAGO, ILL., May 11th, 1899.

To Masters, Owners and Agents of Vessels, Chicago, Ill.:

In view of the prevalence of small pox at certain ports in the States bordering on the Great Lakes, and considering the danger of introducing the disease into Chicago by vessels arriving from infected places, the Surgeon General of the Marine Hospital Service has directed that the crews of vessels of this port be vaccinated as a preventive measure. It is therefore proposed to vaccinate the crews, except those protected by a recent successful vaccination, as soon as practicable after arrival, either on board or at the Marine Hospital Office, Room 319 Rand McNally Building, and to avoid interference with the business of vessels, masters are requested to notify the Sanitary Inspector at the Barge Office or Marine Hospital Office when they will be ready for the Inspector, and the crews should be detained on board until the work is completed. The crews of outgoing vessels will also be inspected and those not protected vaccinated. The crews at South Chicago will be vaccinated at the Marine Hospital Office, 9206 Commercial Ave. It is believed that with the co-operation of the masters and agents of vessels, the proposed work of vaccination can be successfully accomplished, thus making it possible to avoid the detention to which infected vessels are liable by quarantine regulations, and also prove a valuable aid to the local health officials in their efforts to prevent the spread of a loathsome disease.

Respectfully yours,
HENRY W. SAWTELLE,
Surgeon U. S. M. H. S.
In command of station.

WESTERN TIMBER FOR ENGLAND.

The steamer Tecumseh and schooner J. I. Case are loading rock elm and oak timber this week, at Green Bay, Wis., consigned to England. The cargoes arrived over the St. Paul and Northwestern railroads from Wausau. The first portion of this consignment amounts to 1,050 sticks of timber. Later cargoes will be shipped when the timber reaches Green Bay from Ashland, Marquette, Manistique and other points, from whence it will be carried by lake and canal to Kingston, Ont., there rafted to Quebec and be re-loaded for British ports.

Two powerful suction dredges, to be used in maintaining the channel in the South Pass, and also for work in the Southwest Pass, at the mouth of the Mississippi river, are being designed by Maj. James B. Quinn, Engineer Corps U. S. A., in charge of that district. They are to cost not more than \$150,000 each, and are modeled on the plan of the dredge Reliance, long and successfully used in New York harbor. The Reliance is 157 feet long, 37 feet beam, 16 feet depth of hold, has two propellers and a hopper capacity of 650 cubic yards. There are two centrifugal pumps, with 15 and 18-inch suction pipes, about 60 feet long, suspended alongside the hull. Maj. Quinn gives the record of the Reliance as follows: Average cubic yards per load, 584.87; average time pumping this load, 48.6 minutes; average time pumping per day, 4 hours, 58.4 minutes; average time on bar per day, 5 hours, 43.4 minutes; average time from bar to dump, 34 minutes; average time dumping, 12.1 minutes; average time returning to bar, 25.7 minutes; average time dump to anchorage, 66.6 minutes; anchorage to bar, — minutes; average number of loads per working day, 6.73; average quantity dredged per working day, 3,936.6 cubic yards; average rate per minute, 12.3 cubic yards. The new boats will soon be fitted with shore discharge pipes to deposit material over the levees.

NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to The Marine Record.

The Inland Lloyds have not classed many of the older type of wooden tonnage and will not unless it is shown that important repairs have been made.

Grain rates remain steady at 2½ cents for wheat, Duluth to Buffalo, in spite of the trouble with the grain handlers at Buffalo. It is only a very few boats, however, that are willing to take chances just now.

Mr. M. A. Hanna & Co., Cleveland, whose well-known furnaces are the Buffalo, at Buffalo, and Mabel and Claire, in the Shenango Valley, are selling also the product of the Union furnace, which is soon to be started up at Buffalo, making foundry iron. The firm has also taken the Franklin furnace at Franklin Iron Works P. O., N. Y., and will put it in blast.

The inspection of the canal system of New York and Canada by the Advisory Board appointed by the Governor is likely to be of great importance to the state. It is not too much to say that the future of the canal system may depend upon the decision of this board. Buffalo is represented by John N. Scatcherd and Thomas W. Symons. The board is scheduled to be in Buffalo on Friday night.

There is a blockade of coal cars and the railways have stopped shipping coal until the conditions shall have been relieved. This is the second time this year that the shipment of coal has had to be stopped on account of the inability of the shippers to get boats into which to load the coal, but the first time there was not such a serious blockade as now prevails and the outlook is that there will be a still worse blockade in the near future.

The market review of the Black Diamond has the following to say this week: Buffalo advices are that the anthracite situation is strong and hopeful, but that dealers are buying sparingly. The strike of the grain scoopers is giving considerable anxiety, and as much vessel tonnage is tied up grain rates have already advanced. Shipments of coal have been materially reduced on this account. Shipments of coal westward by lake for the week ending May 10, were 61,299 tons, distributed as follows: 22,500 tons to Duluth-Superior; 15,500 tons to Chicago; 12,100 tons to Milwaukee; 4,250 tons to Lake Linden; 2,775 tons to Toledo; 2,704 tons to Green Bay; 850 tons to Kenosha; 820 tons to Racine and 800 tons to Gladstone. Coal rates on both hard and soft, are 40 cents to Lake Michigan ports, 30 cents to Duluth, 35 cents to Portage Lake and 25 cents to Toledo. The coal heavers' strike at Milwaukee has held back shipments to that port.

The present labor troubles will no doubt bring about the use of pneumatic grain elevators, and thus do away with the greater proportion of manual labor. Though the initial cost of the steam power is somewhat greater in the pneumatic system than the present method of handling grain, the cost of labor is over 400 per cent. less. Buffalo's grain receipts by water for the last navigation season were 211,236,000 bushels. The shoveling charges, or the cost of getting the grain to the leg at the present rate of \$3.10 per 1,000 bushels, amounted to about \$654,831.60. The pneumatic system, it is claimed, is not only capable of doing the work, but also of elevating it to the scales or loftier leg for 75 cents per 1,000 bushels, or a total cost on last season's receipts of \$156,427, a saving to this port alone on shoveling charges of \$496,404.60. It is estimated that the cost of 75 cents per 1,000 bushels for conveying the grain from the boat to the weighing scales includes the power required, necessary labor and the profit to the owners of the pneumatic system.

The animus in the grain handling question has spread to other lines and a general tie up is now imminent. When I wired the RECORD last week that the affair was settled it had every appearance of being so, the terms had been drawn up and both sides seemed satisfied. Let me point out how affairs stood on Wednesday: At a meeting with the president of the union, Mr. McBrier, of Erie, said if any adjustment could be reached so that the shovelers could go to work, he was willing to do all in his power to aid it, but that if they were going to stand out in sympathy with all those who had a grudge against the grain contractor, he saw little hope. "If that is the case," said he, "we are helpless." He then asked Mr. McMahon if he could not make a contract with him for unloading his three boats, independent of the Lake Carriers' Association, the contractor or any one else. "No," said Mr. McMahon, "it could not be done as you suggest." "Is there any way we can get this work done?" asked Mr. McBrier. "There is," said Mr. McMahon. "Give us \$1.90 a thousand and we will unload all the grain that comes, wet or dry, big or little, and be glad to do it." "When can you begin?" "In 20 minutes," said Mr. McMahon. "And who am I to do business with?" "With me." "Whom do you represent?" "All the scoopers." "And will they stand by what you say?" "They will." "Then I will close with you in five minutes to unload my boats," said Mr. McBrier, but Mr. McMahon shook his head, and the other members of the committee said no. There was the thorn in the flesh—the poison in the case," as Mr. McBrier put it—the contractor was not out of the question and they would not lift a kernel of wheat until he was out of it, the Lake Carriers' Association, personal owners or anything else to the contrary notwithstanding.

DETROIT.

Special Correspondence to The Marine Record.

Capt. J. H. Westcott says no lake steamer is powerful enough to break a 10-inch manila hawser by a steady, straight pull. A hawser that size will stand a strain of 75,000 pounds, equivalent to a straight pull of 37½ tons.

Lake Erie dredgers have been combining on bids for government work, thereby compelling Uncle Sam to pay higher prices. Monday, E. J. Preyer, of Houghton, Mich., was the lowest bidder by 50 per cent. for the Sandusky harbor, as a result of which Col. J. A. Smith, engineer in charge, is considerably elated.

The steamer Iron Age, owned by Parker & Millen, which went aground while trying to get into Port Colbourne recently, has completed her repairs at Port Dalhousie. The vessel's bows were pretty badly damaged but the exact extent of the damage is not yet known as the repair bills have not been forwarded. The Iron Age has left Port Dalhousie to proceed to Prescott with her load of grain. The 11,000 bushels of the cargo which was damaged was transferred to the schooner Flora Carveth, which will take it to an Oswego starch factory.

The staunch little schooner Ganges, which the late Mr. Oades, her owner and builder, used to say never cost the underwriters a nickel, although always fully insured since she was built in 1874, has at last got into trouble. The steamer Presque Isle collided with and sunk her on Lake Erie between Colchester and the "Dummy" on Tuesday night. The steamer rescued the crew of the schooner and brought them here on Wednesday. The position of the Ganges is given as about one mile south of the passage and nine miles east of Colchester.

Captain A. B. Slyfield, captain and owner of the steamer White Star, which was sunk in collision with the steamer Vanderbilt in the St. Clair river last Thursday, succeeded in patching up the hole in the White Star's bow, and after having her pumped out, took her to Algonac, where she will be repaired. Capt. Slyfield gives an entirely different version of the accident than that told by the captain of the Pennsylvania. Capt. Slyfield says that the White Star blew two whistles, and that the Pennsylvania did not answer; that it was the Vanderbilt that plunged into the White Star; in fact, the White Star was backing in the endeavor to get clear at the time.

Frank D. Welcome, one of the best known and successful masters on the lakes, has been made general passenger and freight agent of the Buffalo & Erie Transportation Co., which will operate the steamer Pennsylvania between those two ports. The Pennsylvania, a new side-wheeler, built at Wyandotte, will begin work May 28th. She will make the round trip daily, besides side excursions, and her schedule is said to call for twenty miles an hour. W. H. McFall, of Detroit, is manager of the line and will be purser of the steamer. By an agreement with the Cleveland & Buffalo line the latter will not stop at Erie and the Pennsylvania will omit Dunkirk.

The handsome little passenger steamer Pennsylvania developed fifteen miles per hour on her trial trip this week, and will soon be placed on the route between Erie and Buffalo. She was built at the Wyandotte yards of the Detroit Dry Dock Co. She is a side wheeler with walking beam engines. Her length is 211 feet; molded beam, 32 feet, and depth of hold 12 feet. The paddle wheels are 23 feet in diameter and fitted with nine feathering buckets, of 9x4 feet surface dimensions. The engine has a single cylinder 48x108 inches and is condensing. The boilers number two and are of the Scotch type. They are fitted with the Howden hot draft. The dimensions of the boilers are 13 feet 2 inches by 11 feet 6 inches. The engines are planned to develop 800 horse-power. The boilers are to be allowed a working pressure of 65 pounds of steam.

In a suit brought by the Penberthy Injector Co. against the Lee-Penberthy Manufacturing Co. to restrain the latter firm from using the name Penberthy, the Supreme Court of Michigan has decided in favor of the plaintiff. I understand that this decision and change of name will not change the policy nor interfere with the manufacture and sale of the Lee injector and other goods manufactured by the firm; neither will the decision interfere with or have any reference financially to any party or parties who have purchased the Lee injector or transacted business with the Lee-Penberthy Manufacturing Co. in the past, or who may purchase Lee injectors or other goods manufactured by the Lee Injector Manufacturing Co. in the future. The decree of the courts has no bearing on the use of the name Penberthy in the past, but rule that it must not be used in any form in the future.

On petition of Frederick H. Prince, of Boston, Judge Swan in the United States district court on Wednesday appointed Percival W. Clements, of Rutland, Vt., receiver of the Ogdensburg Transit Co. The company was organized in Michigan, with a capital stock of \$800,000. It operated eight steamers between Ogdensburg, N. Y., and upper lake ports, in connection with the Ogdensburg & Lake Champlain and Central Vermont railroads. Mr. Prince relates in his petition that he holds \$70,000 worth of stock in the company, and the step is taken for the protection of himself and other stockholders and creditors. He further states that the sum of \$634,000 is still owing on bonds issued to the amount of the capital stock, besides an outstanding indebtedness of \$110,000. The company has also defaulted on its annual payment of \$15,500, which was to be placed in a sinking fund for the liquidation of the bonds.

CHICAGO.

Special Correspondence to The Marine Record.

The latest grain freights this week to Buffalo were quoted at 1½ cents and to Kingston 3½ cents.

The steamer W. R. Linn, grain laden from Chicago, was the first to pass through the Straits, April 27.

The Wabash recently captured 1,000,000 bushels of oats from Chicago for export on a reduced rate of 12 cents.

The steamer Orinoco is unloading 4,000 tons of bituminous coal at the Dnnham Towing & Wrecking Co.'s coal dock.

J. J. Rardon & Co. chartered the steamer Wyoming for corn to Detroit at 1½ cents; the steamer Rappannock to Fairport at 1½ cents.

The Dunham Towing & Wrecking Co., and the Barry Bros.' Independent Tug Line have entered into an agreement which practically gives them the control of the tug service at this port.

The crews of all vessels trading to Chicago will have to be vaccinated. Dr. McInnery has been selected by the officials at the Marine Hospital, and three others will be selected during the present week.

The schooner yacht Idler is in one of Miller Brothers' dry docks receiving a thorough overhauling and calking. She will in future be used by the Naval Reserve at this port for cruising and training purposes.

The steamer Ferdinand Schlesinger has been released from Nine-foot shoal at the Death's Door entrance to Green Bay and is now in dry dock at South Chicago for survey. She was not leaking badly.

The schooner A. G. Morey, which had come out of dry dock where she had received some new bottom plank and calking, collided with the steamer J. R. Langdon and carried away her jibboom when coming down the river.

The schooner Oak Leaf, with a large cargo of cedar ties, arrived here Monday in tow of Hausler & Lutz', South Chicago tug Lutz. Capt. Charley Roach, the veteran Chicago tug captain who is master of the Lutz, is always on the alert.

The schooner Winnie Wing, Capt. Peter Petersen, which had her foremast and jibboom carried away in a heavy squall on a previous trip, arrived here on Saturday from Manistee, where she had received a new foremast and jibboom.

The Goodrich Transportation Co.'s fine fleet of steamers will this season have a total passenger carrying capacity of 12,000 persons per trip, and the tonnage of their fleet will be 10,000 tons. The passenger carrying limit of the steamers will be: Christopher Columbus, 4,000; Virginia, 2,000; Indiana, Racine, Georgia, Atlanta and Iowa, 1,000 each; Chicago and Sheboygan, 500 each.

All sorts of insurance tariffs may be given out, but, on this side the English, or should I say British policy, is being accepted by all of the larger lines on risks including hull, freight and cargo insurance, there is also a liberal item in the policy for fire. A vessel owner told me yesterday that Loyds of London will cover anything he desires and at rates that are away below anything asked by our own people.

Shippers were begging for boats to take grain to Buffalo Tuesday but vesselmen would not hear to sending any vessels to that point until the strike was in better shape. Private telegrams were of the most discouraging nature, with no improvement in sight. It is getting as bad as if one of the greatest outlets to the grain traffic in the world was suddenly blotted off the map without warning to prepare for the change.

A telegram from Frank Owen, general manager of the Ogdensburg line of steamers, received Monday, ordered the boats now in Chicago into commission. The line will be operated by the Rutland Railroad, which recently purchased the Ogdensburg & Lake Champlain Railway. The connection with New England will be over the Fitchburg—with the change in the ownership of the line the Central Vermont, which operated the boats for many years, will lose its connection to the West.

Chicago vesselmen have decided to ask the Grand Trunk railroad, which does the lightering and transferring of grain for vessels passing through the Welland canal, to insure the grain against fire while it is in the railroad's possession. At present the vessel from which the grain is taken and to which it is returned on Lake Ontario, is responsible for the grain while it is in course of removal the length of the canal. The Welland ought to be deepened enough so as to avoid lighting up while vessels locked through.

The Anchor Line Co. are doing a very large amount of business since May 3. Eleven of their fleet of steamers have arrived at this port with full cargoes of merchandise from Buffalo and Erie, and loaded full cargoes of merchandise otherwise known as packet freight. The following notice speaks for itself: The Anchor Line Co., due to the good work performed by their men since the opening of navigation, wish to announce that on all boats arriving on and after May 15 the hourly rate of 25 cents per hour will be paid for all hourly labor. J. C. Evans, Agent; Geo. B. Crites, Foreman.

Last Thursday the Taylor street draw bridge was lifted from its center pier and floated off on two scows, to make room for a bascule bridge which will be erected at this point in the near future. The old center pier will be removed and the river dredged to a depth of 16 feet to conform to

government regulations, and also to permit the sanitary district of Chicago to make some needed improvements at this point. The bridge was floated by placing two mud scows underneath and then raising the bridge with jacks and supporting it on blocking at a sufficient height to clear the center pier. The bascule bridge notwithstanding, Chicago must do a great deal more or lose the river trade except for small hookers, which the lake marine has very little more use for.

The schooner S. A. Wood has been sold by the Hamilton Merriman Lumber Co., to Capt. Patrick Myers, who purchased the schooner, he is one of the veteran captains of the lakes, and has nearly attained to the age of four score years. Capt. Tom Turnbull, who has sailed the S. A. Wood 13 seasons, and had fitted her out, chartered her and ordered a tug to tow her out, was considerably nonplussed when he was informed that she had been sold. He is also an old timer who has sailed on the lakes nearly 40 years, and on the ocean several years before. In 1868 he became master of the schooner Cleveland, and afterward the schooners Levant and Dispatch. He was in the employ of the Kirby, Carpenter Lumber Co., sailing several of their barges for 16 years, and of the Hamilton Merriman Co. 13 years.

The Grain Dealer's Journal of this week says that the grain shovellers of Buffalo, by their continuous quarreling and striking, hasten the adoption of mechanical devices for doing their work. Several times every season the grain trade is held up at that port until the whims of the shovellers are appeased or smothered. More trouble is experienced at Buffalo than all other lake ports combined. It is time the trouble was thoroughly investigated. If the system is wrong, or if the shovellers have just cause for complaint, some changes should be inaugurated which will effect a permanent relief. The grain shippers have already suffered too much delay. "We are simply getting tired of that conglomeration down there," said a broker to me this week. "Either Conners is right or he is wrong and we would like to know how things stand and who is to settle this dispute."

Mr. C. H. McCullough, Jr., general superintendent of the south works of the Illinois Steel Co., states with reference to their instructions for captains of vessels for the season of 1899, there are no changes from the instructions issued last year except the addition of those relative to ranges and that three long whistles indicate the boats come from Ashland or Marquette. After June 1, all depths of water will be the same as last year, but before that time dredging operations will have been completed. Buoys and ranges have been established as follows: Two red buoys show the north edge of the channel, the westernmost one being placed at the turn. In addition to the above buoys, two range targets are placed on the shore to give the range of the center line of channel from deep water to the turn. These range targets will be indicated by two red lights at night. The north range targets and red lights are placed on the north pier and beyond on the shore line.

Chicago city officials regard as important an official expression of the War Department regarding center-pier bridges in the Chicago river, received by Commissioner of Public Works McGann, on Monday, in the form of a communication signed by Secretary of War Russell A. Alger. The letter contains an extract from the report of Major W. L. Marshall, Corps of Engineers, U. S. A., in charge of the construction and improvement of rivers and harbors in the Chicago district, on the recently removed Taylor street bridge, and the opinions quoted in the extract are given the official endorsement of the department. The quotation is as follows: "Congress has begun the improvement of the Chicago river, and it is recognized by all that the removal of center piers from the channel is the absolutely necessary improvement to be made, without which the Chicago river cannot be navigable for modern vessels at cost not prohibitory. "Under these conditions I am of the opinion that no center-pier bridge should be authorized by the War Department over the Chicago river or any action taken or authorized to be taken that will continue these nuisances beyond the lifetime of existing bridges. They must all be removed, due to natural decay and wear, at a near date in the future, at which time such bridges only as are adapted to the requirements of commerce here should, in my opinion, be allowed to be built within five miles of the mouth of the river. By such gradual replacement of the old, obstructive types of bridges by bridges of the required form the improvement demanded in this river will be effected without undue cost to the city and will be extended over sufficient time not to discommode traffic over the bridges."

BIDS were received at the Navy Department this week from the Midvale Steel Company and the Bethlehem Company for furnishing forgings for 61 five-inch guns that are to be used on the twelve new vessels authorized by Congress last session. Each firm bid at 22 cents a pound, and it is probable therefore the contract will be divided equally between the two. All of the guns will be manufactured at the Washington gun shops.

THE first news of the condition of the wreck of the steamer Harlem since the expedition abandoned her last winter was brought by the captain of the passenger steamer Dixon. The Dixon passed within a half mile of the wreck. Her captain says that the Harlem is lying fairly upright, about east on the reef near Menagerie Island, Isle Royale group. The winter in the ice of Lake Superior has not apparently done the hull any harm.

CLEVELAND.

Special Correspondence to The Marine Record.

An idea is prevalent that Escanaba ore charters will go up to 60 cents this week though tonnage has been placed all week at 55 cents.

The Marquette ore rate is now firm at 65 cents, 55 cents Escanaba with an upward tendency and 70 cents from the head of the lakes.

Among visitors here this week were Capt. James Davidson, West Bay City, and F. W. Wheeler, also John Craig, of Toledo, and Myles Barry, of Chicago, and Ben Boutell, H. M. Gillett and G. C. Cook, of Bay City.

There is now no doubt but that the contractors on Government work at Lake Erie ports had entered into some sort of a mutual agreement regarding the bids to be presented on pile driving, dredging, pier building etc.

Mr. Waite, representing London Lloyds underwriters, left this port on Tuesday, for Lake Superior, where he will inspect the stranded steamer Harlem, learn about the condition of the hull, chances of floating her, etc.

The tonnage of the steel steamer Pennsylvania, recently launched at the Lorain yards of the Cleveland Ship Building Co., is given by the Bureau of Navigation, Treasury Department, Washington, D. C., as 4,840 gross and 3,604 net.

The schooner William McGregor, which was one of those chartered by the Atlantic Transportation Co. to go to the Atlantic with the rest of the lake fleet last fall, arrived here from Port Colborne on Tuesday. The McGregor will be sent to Marquette to load iron ore.

The artist Howard H. Sprague, who died in New York on Monday, was a brother of Mr. Sprague, purser of the State of Ohio. Howard H. was for some time in the employ of the MARINE RECORD and painted a large number of marine scenes during his service on the lakes.

The coal rate is firm at 30 cents to Lake Superior and 40 cents to Milwaukee. A charter was made on Tuesday at 50 cents on anthracite from Buffalo to Chicago. The coal shippers don't like the new clause relating to demurrage in the bill of lading, but vessel owners and brokers hold out for it all the time and it will soon become customary.

The 30 cent rate on coal to the head of the lakes is not a fair living freight. Owners ought to hold out for at least 50 cents, the detention and carriage entitles carriers to a fair recompense for the work performed. A rate of 50 cents to Lake Superior should mean 60 cents to Lake Michigan ports. Coal has never paid its just freight on the lakes.

The largest cargo of coal ever shipped to date was on the steamer Hendrick S. Holden, which amounted to 6,432 net tons of anthracite, Buffalo to Duluth, on a draught of 17 feet 8 inches forward and 17 feet 1 inch aft. The next larger was on the schooner Polynesia with a cargo of 5,690 tons, Cleveland to Duluth, 16 foot draught.

The Gilchrist fleet, including a number of the older class of vessels, are going to be started to the coast. A conservative vessel owner, with whom I talked this week, said that the Move was a poor one, as when any old coach or rattletrap couldn't sail on the lakes they had no use for them on the coast, besides their construction and fastenings were no good for salt water.

There is a disposition to let contractor Conners fight out the grain shoveling dispute without the further aid of the Lake Carriers' Association. It seems certain that a few more squabbles like this Conners fight with the grain handlers would result in owners making individual contracts and being tied up to no one man, as it is thought that a spirit of competition might be better for all interests concerned.

Rates on iron ore now from the head of the lakes figure up to 70 cents and 55 cents from Escanaba. Chartering is not brisk, but rates of freight are steadily on the increase and have been since the opening of navigation. I learn that some owners and managers of steamers are simply kicking themselves now for chartering too early. Fixing ahead is generally a weak thing for a manager of other people's floating property to do.

Mr. F. W. Wheeler, shipbuilder of West Bay City, was in the city this week in consultation with vessel owners. From what I learn Mr. Wheeler could gain another contract for a large steel steamer and tow-barge if he would guarantee delivery, but steel makers are not taking orders just now. By the way Mr. Wheeler is just a wonder, he has got out of his industrial, or rather commercial difficulties, and that West Bay City shipyard is just going to hum again with activity.

Col. J. A. Smith, Corps of Engineers, U. S. A., thinks that the Lake Erie combine has been broken, and that hereafter the Government will be able to secure cheaper work. When the bids for the improvement of Sandusky harbor were opened Monday, it was found that E. J. Preyer, of Houghton, Mich., was the lowest bidder by almost 50 per cent. Col. Smith says that in the past there has been a pool in the Lake Erie district, and that the territory of each contractor has been respected by the others.

Through the recent change in the mayoralty and consequent replacing of bridge tenders, the decks of two steamers were swept of their upper works this week. The Burroughs and the Alaska were the craft caught in the draw of Main street bridge, owing to the clumsy working of that piece of machinery by the new hands placed there under the present municipal administration. It is to be hoped that the ves-

sels will recover from the city every dollar's worth of damage caused by the inefficiency of its employees.

The labor trouble at Buffalo is keeping vessel owners, agents, and brokers guessing relative to the outcome. It is now known that Bishop Quigley is heading the crusade against the vessel owners and their contractor, at the same time there is any quantity of unemployed men in the country, though perhaps not skillful grain shovellers. I have been told several times in the past few days that the time has gone past when the laborers at any one port can tie up the commerce of the lakes, on the other hand it is generally admitted that the Buffalo longshoremen are putting up a stiff front.

The matter of wages between dock managers and dock laborers in Ashtabula, Connaught, Fairport and Erie has been settled and is as follows: For unloading boats, 10½ cents a ton; overtime, 18 cents per hour extra; unloading ore by machine, 6 cents a ton; loading by hand, 60,000-pound cars, \$2; 70,000-pound cars, \$2.25; 80,000-pound cars, \$2.50; 90,000-pound cars, \$2.75; 100,000-pound cars, \$3; trimming, cars, 60,000 and 70,000-pound cars, 20 cents; 80,000 and 90,000-pound cars, 25 cents; 100,000-pound, 30 cents; day work of ten hours, \$1.50; eleven hours, \$1.57½; twelve hours, \$1.65, and over twelve hours the men receive 30 cents an hour, double time. The hoisters will receive 25 cents an hour for overtime and the regular wages, \$60 a month. Cleveland rates are 11 cents per ton, because it is more expensive to live here than at the smaller ports above mentioned.

ESCANABA.

Special Correspondence to The Marine Record.

A. A. Pomeroy, representing J. H. Beers & Co., a Chicago publishing house, is in the city gathering information to be used in the Illustrated History of the Great Lakes.

Thursday afternoon, while the steamer Shrigley was leaving Green Bay without a pilot, she ran hard aground in the mud south of Grassey Island light. She succeeded in releasing herself next morning without sustaining any damage whatever.

Wreckers have succeeded in placing the hydraulic jacks in position about the steamer Thomas Davidson, ashore on Cana Island, and an attempt will be made to pull her off into deep water. The stranded steamer is resting easy and is making about one inch of water an hour as she now lies.

The sight of six schooners coming into port with a fair wind and every stitch of canvas set and pulling beautifully, brought back fond memories of the good old days on the lakes. One or two smaller craft can be seen making their way into port most any day, but six, all nearly in a bunch, is rather an unusual sight nowadays.

Matters marine are decidedly slow at this port, just at present, due, most likely, to the labor troubles at Lake Erie ports. In the ore line there have not been arrivals enough to keep two of the docks busy, while the coal arrivals have taken a very noticeable drop in number. How long the present state of affairs will keep up seems to be the principal subject among marine men.

Thick weather during the past week or two has been rather disastrous to vessels bound to or from Escanaba, the first being the steamer Iowa (reported last week), then the big wooden steamer Thos. Davidson, of Milwaukee, bound for this port, light, brought up on Cana Island, west side of Lake Michigan. The steamer Maryland reported her and the wrecking tug Monarch left for the scene of the accident, but did not succeed in releasing her, as she is out about five feet forward and lies in a very rocky and exposed position. The wrecker returned after a set of jacks, but while here received a message from Milwaukee not to go back. The heavy winds of the last couple of days are likely to have caused considerable damage to the stranded craft. It was reported Saturday morning that the steamer Schlesinger, bound from this port with a cargo, had succeeded in finding bottom very near the same place as the Davidson.

FLOTSAM, JETSAM AND LAGAN.

On her first trip the steamer Pennsylvania carried over 6,000 tons of ore from the head of the lakes.

Capt. Hagney, who was master of the lost schooner Nelson, formerly sailed the schooner Chippewa.

Capt. Aart Vantoll, owner of the tug George Stickney and a veteran marine engineer, died at Grand Haven, Mich., Monday night, aged 65 years.

The Secretary of War has approved the contract of Andrew Onderdonk for deepening the east channel of New York harbor to 40 feet for a width of 2,000 feet. The project will cost about \$4,000,000.

The Harlan & Hollingsworth Co., Wilmington, Del., has been awarded a contract for building two steamers for the New York and Baltimore Transportation Co. The new vessels will contain all the modern equipments.

Insurance companies have made new rates discriminating against ocean steamers when bound for Canadian ports. This is a blow to Canadian shipping interests, as many boats will be diverted from the St. Lawrence trade to American ports.

Grain elevating at Port Huron has been given a boost this season such as that port never experienced before. The strike at Buffalo is undoubtedly responsible for considerable increase in trade at that point. Since the opening of navigation 2,000,000 bushels have been brought to Port Huron.

ST. MARY'S FALLS CANAL DISCUSSION OF STATISTICS.

ESTIMATED VALUE OF FREIGHT, BY ITEMS, THROUGH ST. MARY'S FALLS CANAL, MICHIGAN.

ITEMS.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Coal (hard and soft) . . .	\$ 4,735,454	\$ 7,367,644	\$ 5,702,190	\$ 7,619,238	\$ 8,776,362	\$10,164,931	\$10,528,420	\$ 8,191,917	\$ 6,993,351	\$ 8,452,072.50	\$ 9,456,824	\$10,334,461.05
Flour	7,863,675	10,953,625	11,143,535	16,195,520	18,900,715	21,672,540	29,682,696	33,621,649	33,383,632	34,199,003.30	40,145,144	33,056,682.75
Wheat	22,634,590	18,224,424	15,907,217	15,893,022	38,040,239	30,746,085	32,611,239	22,316,469	30,041,863	47,442,347.25	48,654,143	49,871,996.80
Grain (other than wheat)	759,653	1,981,862	2,090,580	2,003,496	1,011,462	933,346	1,346,993	772,504	4,164,347	10,704,747.69	11,449,256	13,039,192.00
Manufactured iron	3,035,750	2,442,950	1,577,250	4,680,750	2,128,000	2,988,600	2,852,300	1,805,350	3,683,150	4,696,200.00	6,092,400	10,709,350.00
Pig iron	241,468	252,348	442,272	386,104	462,077	709,716	550,902	331,452	346,788	377,298.00	176,437	476,774.75
Salt	204,908	210,433	168,250	179,431	234,528	275,740	228,730	237,461	202,439	178,136.25	214,086	226,170.00
Copper	6,977,200	5,792,000	6,691,200	8,745,800	13,838,000	12,998,600	17,506,000	19,914,600	21,490,400	23,374,400.00	24,464,800	29,814,240.00
Iron ore	8,741,995	8,996,808	14,335,492	16,711,688	12,460,744	17,153,962	14,050,946	17,027,078	22,332,319	25,705,062.50	31,901,145	35,120,880.00
Lumber	2,974,068	4,326,696	5,679,972	6,514,722	6,593,490	9,231,192	10,593,810	11,564,608	8,888,400	8,562,325.00	10,875,762	12,984,532.50
Silver ore and bullion . . .	53,826	520,579	914,589	527,807	266,211	296,815	379,861	46,144	11,200	26,880.00	560	46,700.00
Building stone	134,010	335,410	335,380	479,730	440,800	396,980	194,260	214,170	238,760	177,310.00	62,490	37,388,760.00
Unclassified freight	20,675,160	20,751,240	18,744,600	22,277,640	25,025,580	27,548,760	24,910,800	27,071,100	27,798,480	31,251,060.00	34,742,880	
Total	\$79,031,757	\$82,156,019	\$83,732,527	\$102,214,948	\$128,178,208	\$135,117,267	\$145,436,957	\$143,114,502	\$159,575,129	\$195,146,842.49	\$218,235,927	\$233,069,739.85

RESULTS OBTAINED FROM DISCUSSION OF TRAFFIC STATISTICS.

SEASONS.	Total Mile-Tons.	Total Cost of Transportation.	Cost of Carrying. Per Mile. Ton.	Average Distance Freight was Carried.	Value of American Craft.	Value of Canadian Craft.	Proportion of Freight Carried by Canadian Vessels.
1887	4,458,544,804	\$10,075,153	2.3-10 Mills.	811 4-10 Miles.	\$17,684,550	\$2,089,400	7 Per Cent.
1888	5,173,132,972	7,883,077	1.5-10 "	806 4-10 "	20,381,100	1,514,300	6 " "
1889	5,940,646,352	8,634,247	1.5-10 "	790 4-10 "	25,328,600	1,597,600	4 " "
1890	7,207,299,415	9,472,215	1.3-10 "	797 2-10 "	27,857,700	1,777,800	3½ " "
1891	7,292,462,269	9,849,023	1.35-100 "	820 4-10 "	31,947,300	2,119,500	4 " "
1892	9,222,773,938	12,072,851	1.31-100 "	822 4-10 "	36,220,100	2,108,700	3 8-10 " "
1893	8,980,310,240	9,957,483	1.1-10 "	831 9-10 "	39,017,400	2,115,700	4 1-10 " "
1894	10,927,871,324	10,798,310.28	.99-100 "	821 1-10 "	41,124,200	1,959,800	3½ " "
1895	12,502,548,892	14,238,758.02	1.14-100 "	830 "	40,858,800	2,037,000	3¾ " "
1896	13,582,641,886	13,511,615.80	.99-100 "	836 4-10 "	43,006,200	2,135,300	4 " "
1897	15,969,393,576	13,220,099.84	.83-100 "	841 3-10 "	42,375,700	2,001,400	3 " "
1898	17,891,597,030	14,125,896.00	.79-100 "	842 6-10 "	45,199,800	2,491,900	2 2-10 " "

FREIGHT RATES FOR WATER TRANSPORTATION TO AND FROM LAKE SUPERIOR.

ITEMS.	Designation.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Coal	Net tons.	\$.90	\$.70	\$.47	\$.45	\$.43	\$.41	\$.40	\$.40	\$.37	\$.32	\$.30	\$.25
Flour	Barrels.	.29	.17½	.18	.13	.15	.16½	.17	.14	.14	.11	.10	.10
Wheat	Bushels.		.03½	.04	.03	.04 6-10	.03 6-10	.02 8-10	.02½	.04 4-10	.02½	.01 7-10	.02
Grain	"	.07		.03¾	.02	.03½	.03¾	.02¾	.02¾	.04 5-10	.02¾	.02	.02
Corn	"		.04½	.03	.03								
Manufactured iron	Net tons.	2.35	1.80	2.10	1.34	2.50	2.15	2.00	.90	1.50	1.40	1.40	1.40
Pig iron	"		1.30	1.45	1.35	1.17	1.23	1.30	1.15	1.05	1.05	1.05	1.05
Salt	Barrels.	.18	.16	.18	.15	.18	.15	.12	.12	.13	.15	.15	.15
Copper	Net tons.	2.60	2.35	2.25	2.38	2.00	1.40	1.75	1.95	1.66	1.95	1.95	2.00
Iron ore	"	1.75	1.28	1.14	1.10	.98	1.00	.80	.70	.82	.82	.65	.60
Lumber	M. ft. B. M.	4.00	2.80	2.70	2.38	2.70	2.95	2.35	1.90	2.00	1.80	1.55	1.65
Silver ore	Net tons.	3.00	1.90	1.90	2.25	2.25	2.25	2.25	2.25	2.33	2.33	2.33	.....
Building stone	"	1.15	2.05	2.02	2.00	2.00	1.67	1.36	1.28	1.20	1.50	1.50	1.50
Unclassified freight	"	4.00	3.00	3.00	2.75	3.58	3.60	3.00	2.75	2.50	2.30	2.30	2.40

NEW YORK STATE CANALS.

THE MARINE RECORD has just received the following communication which we are pleased to publish, not only from a record standpoint, but also that our readers may forward an expression of opinion according to the views which they may hold, and this too, individually, or collectively, irrespective of what the RECORD may or has said regarding the question.

COMMITTEE ON CANALS.

11 Broadway, NEW YORK.

To the Editor of the Marine Record:

Sir:—The Governor of New York has requested this committee to report to him before the next meeting of the Legislature, what is best to be done about the canals.

Briefly, the facts in the case are as follows:

From 1817 to the end of 1882, when the tolls on the canals were abolished, the State had paid out for construction and enlargement of the canals the sum of \$78,685,580, and for superintendence and ordinary repairs the sum of \$48,399,286, and had received in tolls and other revenues the sum of \$135,418,325, leaving a net balance of income over outgo of \$8,333,457. The profit on the Erie canal at that time was more than \$42,000,000 over and above the cost of construction and maintenance, in addition to the indisputable benefits in the past to the commerce and prosperity of the State of New York. Since the tolls were abolished in 1882, the average annual cost for operation, repairs and maintenance (excluding interest charges) has been about \$1,034,000, of which \$802,000 has been paid from the ordinary repair fund, and \$232,000 from the extraordinary repair fund.

The tonnage on the canals has steadily diminished from 6,673,370 tons in 1872 to 3,360,063 tons in 1898. Until within

the last few years the diminution has been chiefly on the smaller canals. The Erie canal which carried 3,500,000 tons in 1871 had 3,235,000 tons in 1893; and the Champlain canal which had 1,100,000 tons in 1871 carried 1,020,000 tons in 1892. Since 1893, owing to the improvements on the railroads and the reduction of rail rates and the lack of improvements on the canals, the tonnage on these canals has also diminished; in 1898 the Erie canal carrying 2,300,000 tons and the Champlain canal about 800,000 tons.

In 1895 the Legislature authorized and the people by vote approved, the expenditure of \$9,000,000 for increasing the depth of the Erie and Oswego canals from seven to nine feet in the canal bed and eight feet in the masonry structures, and two feet less in the Champlain canal. The appropriation is exhausted, and the work is stopped. The commission appointed last year by Governor Black, consisting of George Clinton, Franklin Edson, Smith M. Weed, Darwin R. James, Frank Brainard, A. Foster Higgins and William McEchron, has reported that 36 per cent. of the work is completed and 64 per cent. is yet to be done, and that to complete this project, including suitable modern locks at Cohoes, Little Falls, Newark and Lockport, will cost approximately \$15,000,000. It is no part of our duty to state the reasons why this enlargement will cost so much more than originally estimated. These were fully stated in the report of the committee above named, which was published in August last. Our task is to study the question in the light of existing facts, and recommend to the Governor the best course to pursue under the circumstances as he found them on taking office. We shall endeavor to obtain and present in an intelligible form, the necessary statistics of commerce and freight rates, in order to form an intelligent

judgment, and, in addition, we desire to have the opinion and advice of those who are competent to give them.

It seems to us that there are five possible solutions of the problem:

First: To complete the present project of enlarging the Erie, Oswego and Champlain canals at a further cost of \$15,000,000 (or \$24,000,000 in all). The benefits to be derived from this project are estimated by competent engineers at a saving of 1.11 cents per bushel of wheat from Buffalo to New York, or a reduction from the present cost of 1.8 mill per ton per mile to 1.0 mill per ton per mile, and a corresponding reduction in other traffic, on its capacity of about 15,000,000 tons per annum. It is understood that this present project includes the construction of pneumatic locks at Lockport and Cohoes, the lengthening of all other locks on the Erie and Oswego canals so as to take in two canal boats, each 115 feet in length, and these two canals made suitable for boats of a draught of 8 feet. This project provides for the Champlain canal draught of 6 feet, and a possible substitution of slack water navigation on the Hudson river wherever practicable between Fort Edward and Troy, in place of the existing canal structure.

Second:—To enlarge the present locks on the Erie canal at once to a length of 260 feet, a width of 26 feet and a depth of 11 feet, making them suitable for boats 25 feet wide, 125 feet long, and 10 feet draught. This project would cost about \$6,000,000. It would permit the use of boats of 6 feet draught, as at present, but with increased width and length, and having a capacity of about 420 tons or 14,000 bushels of wheat, in place of 240 tons or 8,000 bushels of wheat, at present carried. It is estimated that the use of such boats would result in a saving of 1 1-10 cents per bushel of wheat, or a

reduction to 1.0 mill per ton mile.

With the locks thus enlarged, the question of increasing the size of the prism could be considered separately with the following results:

(a) With the size of the canal prism increased so as to complete the existing project, making it suitable for boats of 8 feet draught, and of the length and width above stated; these would have a capacity of about 620 tons or 20,667 bushels of wheat, instead of 240 tons or about 8,000 bushels of wheat as at present. It is estimated that the use of such boats will result in a saving of $1\frac{1}{4}$ cents per bushel of wheat, or a reduction to 8-10 of a mill per ton mile. The cost of this work on the prism, outside of the locks, is estimated at about \$14,000,000, and its adoption would utilize and make available the work that has been done under the \$9,000,000 act.

(b) With the size of the canal prism increased so as to make it suitable for boats of 10 feet draught and of the length and width above stated; these would have a capacity of about 820 tons or 27,333 bushels of wheat, instead of 240 tons or 8,000 bushels of wheat, as at present. It is estimated

ing appropriated \$240,000 for surveys and authorized the appointment of a Deep Waterway Commission, which is now vigorously prosecuting surveys along the Oswego-Mohawk and the Champlain routes, with a view to forming an accurate estimate of the cost.

Fifth: To abandon the canals entirely, as has been done in some other States, and dispose of the property interests therein to private individuals or corporations, on the best terms which can be secured, or to make some other use of the property for the benefit of the State.

In view of the importance of the welfare of the State of New York, whose commerce relatively to that of other seaport cities is diminishing, of a proper decision of this question, the committee feels justified in asking that you will give them in writing the benefit of your views on the propositions above suggested, or such other propositions as you may think will afford a proper solution of the problem.

The favor of a reply is requested with the least possible delay.

Very respectfully,

For the Committee,

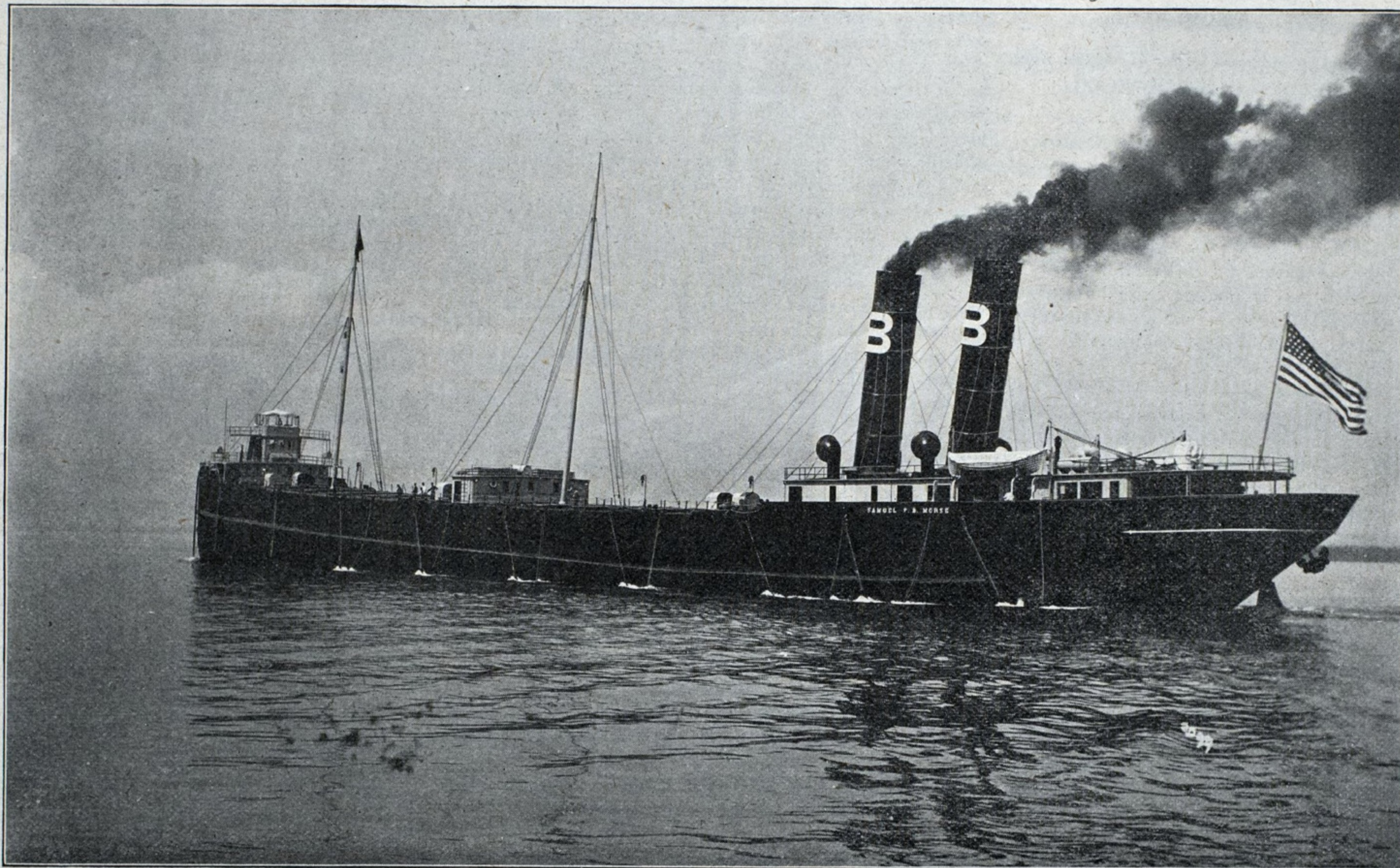
F. V. GREENE, Chairman.

sions; the number of charters arranged for during this week has consequently been small, but rates do not show any appreciable change.

NOTES.

In discussing the steam launch as a naval auxiliary in the light of Spanish war experiences, W. P. Stephens, in a paper read at a meeting of the Society of Naval Architects and Marine Engineers in New York, asks whether the use of such yachts would have been necessary had the navy been thereotically complete in all its branches; notably had the gunboat and torpedo arms been developed to the same extent as in other navies. This question he answers in the affirmative, taking the ground that none of the vessels of the gunboat or torpedo boat types are adapted for the special service demanded of the converted yachts. Marine Engineering for May prints the full text of the paper, accompanying it with illustrations of some of the best known converted yachts.

An Italian service journal describes a new apparatus which has been invented recently by an ex-torpedo officer



STEEL CARGO STEAMER SAMUEL F. B. MORSE.

Built in 1898 at the yards of F. W. Wheeler, West Bay City, Mich. Dimensions, 476 feet over all, 456 feet keel, 50 feet beam, 29 feet molded and 24 feet depth of hold. Engines quadruple expansion, diameter of cylinders $26\frac{1}{2}$, 37, $54\frac{1}{2}$ and 80 inches by 42 inch stroke. Boilers, 4 Scotch type, 13 feet 4 inches diameter and 11 feet 6 inches in length, tested and allowed a working pressure of 200 lbs.

From Beeson's Marine Directory for 1899.

EASTERN FREIGHT REPORT.

Messrs. Funch Edye & Co., in their weekly freight list to the RECORD report that the Eastern situation is as follows: Whilst the enquiry for grain steamers has continued fairly active, intending shippers have in most cases been unable to meet the advance demanded both in freight and grain prices, for which reason our list of charters is smaller than reported the preceding week. Berth freights for shipment in May and June show some advance, but not as yet up to the figures demanded by open boats. Business in deals and timber fixtures has been very quiet, although some advance in freights for the former trade may be looked for. There has been some activity in time charters, doubtless referable to the very marked decline in owners' demands for shorter and longer periods of engagement. A few fixtures are reported on sugar up from the West Indies, but rates are on a level of the generally reduced plane of our freight market.

Sail tonnage has lately become a little more abundant, but business in this line continues quiet, as shippers are now holding back, and owners are not willing to make conces-

that the use of such boats will result in a saving of 14-10 cents per bushel of wheat, or a reduction to 7-10 of a mill per ton mile. The cost of this work on the prism, outside of the locks, is estimated at about \$24,000,000; and its capacity at 20,000,000 tons per annum.

Third: To construct a barge canal continuously descending all the way to the Hudson river from Lake Erie, with a depth of 12 feet, and suitable for barges of 1,200 to 1,500 tons, which can be towed on the lakes if desired. The cost of this is approximately estimated at \$50,000,000, and the saving at 1.55 cents per bushel of wheat from Buffalo to New York, or a reduction over present cost of 1.8 mills per ton per mile to 0.6 of a mill per ton mile. Its capacity is estimated at 25,000,000 tons per annum.

Fourth: To construct a ship canal with a depth of 20 to 30 feet, suitable for lake and ocean vessels of 5,000 to 10,000 tons capacity. The cost of such a ship canal, depending upon its size and the route adopted, is estimated at from \$200,000,000 to \$500,000,000. This ship canal project is under consideration by the Federal Government, Congress hav-

of the French navy, with the object of enabling a ship to have timely warning of the dangers threatened by shoaling water, or by collision with an approaching vessel. The apparatus itself is called the "torpedo scout," and is said to resemble an automatic torpedo of the Whitehead type, but of reduced dimensions, measuring four and a half metres in length and forty centimetres in diameter. Instead, however, of the explosive charge carried by the Whitehead, the torpedo scout carries a motor apparatus, which is worked by electricity, and is connected with the ship by wires, which transmit sufficient energy from it to keep the torpedo scout traveling in advance at a slightly higher rate of speed. In the nose of the torpedo is a striker, the shaft of which slides inside a metallic tube as in a sheath, and which, on touching a reef, the side of a ship, or an obstacle of any kind, slides back, presses on a spring, and thus closes the circuit of an electric apparatus on board the vessel, with which it is connected, giving an alarm. The torpedo scout is said, also, to be furnished with an appliance which automatically regulates the depth of immersion.



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CLEVELAND, O., MAY 18, 1899.

THERE are several new contracts for large steel tonnage awaiting a date for completion of construction, some of which would be placed if lake shipbuilders could guarantee early delivery. Deliveries of metal, even at greatly advanced figures, can't be secured, hence, further contracts for new vessels are being temporarily held over.

LABOR at nearly all lake ports feel discontented, and the foment at Buffalo by no means tends to alleviate the situation. In all charters and bills of lading owners should see that they secure themselves relative to demurrage as between the charterer, shipper and consignee. It is easy to perceive that handling vessel property is drifting towards the general, as opposed to exclusive lake customs and practice.

THE weather on the lakes Tuesday and Wednesday developed some peculiarities. Sudden changes of wind, heavy squalls and a general disturbance of the atmosphere prevailed, all of which was utterly ignored by our so-called Weather Bureau, of the Agricultural Department, or rather, no adequate notices were sent out to herald the actual conditions. The Agricultural Department should pretend to prognosticate for farmers and leave the hydrographic element of the lake marine department alone.

It may be thought that the vast shipping interests of the lakes are not being taken care of by British underwriters, that they usually discriminate against foreign bottoms, tonnage, etc. This opinion has in a measure prevailed in certain circles; yet, when it is considered that Lloyds Underwriters, at London, had taken risks on lake vessels last season amounting to nearly \$160,000,000, it will be seen to what extent their capital protects the inter-lake trade. The business integrity of Lloyds is unquestionable, and only those who are like "Caesar's Wife,"—that is, above suspicion,—can do business with the "grand" institution.

A MARINE contemporary printed last week across the top of the cover page the following legend: "Most widely quoted trade publication in the United States." This assertive assumption could only have been indulged in by a perverted ignoramus, a proof of which is furnished from the fact that the author of the quotation thinks that he is printing a periodical devoted to the marine element, therefore, if there are any pretensions to his fond imaginings the publication is a class one and not a trade paper at all. Then as regards being quoted. If a paid advertisement for a book, printed in one issue of the daily newspapers at lake ports may be understood as "being widely quoted" then the whistle is paid for and no credit is due. It is exceedingly bad taste for any journal to lay claims to a pre-eminence which it never held, cannot obtain or maintain.

OIL ON THE WATERS.

The loss of the tow barge Nelson this week, accompanied by serious loss of life, is another instance wherein we base our argument and reasons for the establishment of a wreck court of inquiry, disinterested and severed from the steamboat inspection service. The Nelson being a schooner, or actual consort and tow barge would not come under the rules or examination of the steamboat inspection service, nor could her officers be vouched for as being competent to handle a vessel under distressing circumstances, such, as when a casualty was imminent and alternatives had to be met.

We do not say that this vessel was permitted to founder with loss of life through the incompetency of those on board, but, we do strongly asseverate, that the whole circumstances of the casualty should be minutely inquired into, and the existing conditions at the time of the foundering be clearly shown, so that guidance may be given lake pilots and masters when similarly placed.

The casualty referred to, and which is the first of the present season where loss of life is to be recorded, would at this writing point out the efficacy of pouring oil on the troubled waters. From the account of the foundering printed elsewhere in this issue of the RECORD, it would seem that the steamer or convoy was doing fairly well, but that the consorts were making bad weather of it, and getting loaded down with ice through shipping large quantities of water and it freezing on their decks and rigging. Of course this would not help the towing steamer any, as the heavier and more logey the consorts became in a sea way, so much more difficult would it be for the steamer to plug into the head sea and keep her consorts off the lee shore.

In such a situation or predicament it will occur to a majority of lake pilots that a moderate supply of oil allowed to drop astern from the convoy, would have permitted the consorts to have made much better weather of it, and probably have been the means of keeping the Nelson afloat until daylight at least, when the manoeuvre of turning the tow around in a sea way could have been more carefully watched and the casualty perhaps avoided.

It is not our desire to be in any way premature in regard to passing strictures, offering suggestions, or placing odium where it might or possibly might not justly belong. It is, however, strictly within our province to call for a full, free, and minute investigation relative to the loss of life and the craft herself.

Let a competent board, and by that we mean anything but a common jury, be empowered to gather and sift all possible evidence, also to make suitable suggestions relative to the handling of vessels placed in such a position as the A. Folsom and her consorts found themselves when off Grand Marais, Lake Superior, on Saturday last.

It is simply horrible to witness the amount of money the Federal Government is spending on the lakes without any adequate, or in fact any possible or actual returns. The so-called life-saving service stations are simply summer resorts and fishing depots with the offices appertaining thereto a sinecure, for, say about one and a half or two million dollars per year. Then, again, comes in the Fishery Commission, which is a perfect farce and costs perhaps about half of the above amount. The steamboat equipment examination and licensing of officers, costing the Lord knows what, is nearly on a par, and the Weather Bureau, which is in the Agricultural Department, is a holy terror for expenses, credited, in part, to the marine community. Senators and Congressmen from lake states might look into the efficiency of these departments and cast their votes against further appropriations for the continuance of such palpable shortcomings. There are other departments which the RECORD might name, but at this time we simply are after and desire to start a starter relative to uncalled for extravagant national appropriations.

ALL lake men know of the late Col. Ludlow and his brush with the Light-House Department relative to the lighting and buoyage of the "Soo" river. At this time the Army and Navy Journal, New York, has the following to say about our irrepressible Colonel: "Gen. Ludlow showed how to deal with strikers when the Cuban stevedores, at Havana, struck last week and used force to prevent Chinese from taking their places. Officers of Gen. Ludlow's staff were sent to the scene. The names of the ringleaders were taken and they were given five minutes to choose between resuming work and going to jail. They subsided, and the men were soon at work."

THE smallpox scare at lake ports, for which there is little or no grounds, has given the Marine Hospital Service a theme to discuss as well as a theory to practice. Masters of vessels are asked to marshal their crews here, there and everywhere to be vaccinated. In some cases the crews are to be mustered at an uptown office. Well! if there is any danger of infection, the marching uptown opens every possible avenue for a spread of the disease. The only way to quarantine a port is to inspect prior to arrival. The way to do this is to station a boarding officer at the entrance to the port, the crew ready lined up for inspection, and then the process would not delay a vessel one minute, as during the examination the vessel might be proceeding at her usual speed. If a peculiar stage of sickness has developed before reaching port, or say within forty-eight hours, let the quarantine flag be shown on the vessels approach. The Marine Hospital Service is fully aware of the universal rules regarding quarantine, and ought not to request shipmasters, or rather masters of lake vessels, to muster their crews at appointed offices in the city or port of destination. Inspection on departure and arrival with a clean bill of health from the last port is all that is necessary and we hope to see the Marine Hospital Service act on the lakes as is done elsewhere, viz: place a boarding officer with a tug or launch at each port and don't bother either master, owner or crew any more than is actually necessary.

It would be quite in order for the U. S. Light-House Board to begin experiments with the wireless telegraphy system in connection with outlying light houses and stations not connected by the electric or magnetic telegraph systems. In some cases the Life Saving Service or even the Weather Bureau might render assistance in perfecting and utilizing a code for lake use. It appears that fog, rain or storms do not interfere with the ordinary transmission of messages. This wireless telegraphy it appears is possible through the qualities of ether in the atmosphere which permits an electric displacement to be made, thus conveying through the Morse code of dots and dashes any desired message without the aid of connecting wires or cables of any kind by the application of electrical means systematized on a scientific basis. Very valuable and practical experiments have recently been carried out at stations in the English channel, and if such is possible in that almost land-locked locality there is no reason why the system should not be brought to still greater perfection on the lakes. As we have suggested, one or other of our government departments, presumably, either the Light-House Board, Life-Saving Service, Weather Bureau or Hydrographic Office, U. S. N. might enter upon wireless telegraph experiments upon the lakes with the greatest economy and advantage to the marine, scientific and relative interests therein concerned.

THE question of vessel taxation is gradually being settled on the lakes by several of the States adopting special laws to cover vessel property. The result will be that the States holding the old rule of trying to collect from the ships taxes equal to that charged up against personal property in large cities will find themselves without vessels of any kind from which to collect taxes. The home port of the ship is easily changed. Wisconsin has just adopted a law similar to the Minnesota law, which provides for a tax of 3 cents per gross ton. The MARINE RECORD went into this question with the Commissioner of Navigation on each change of administration for the past score of years, and, while nothing could be done from a national standpoint, the States bordering on the lakes are now taking the matter fully in hand.

CANDIDATES for masters or pilots' licenses on the lakes will never qualify themselves until the examiners become duly fitted to exact a fair amount of technical ability before granting licenses to the aspirants. We again ask the Supervising Inspector-General of the Steamboat Inspection Service to raise the standard of examination papers at periodic intervals and to see that his local inspectors advance in the study of pilotage according to the requirements of the would-be pilots.

THE British have a great many more ships than the United States, but they cannot get their goods carried to any part of the world for less cost for proportionate distances than can our merchants. All the maritime nations are competing for our foreign carrying trade. Under such circumstances what greater folly could we commit than to subsidize a shipping trust to do for us at larger cost a service which others stand ready to do for us at a lesser cost?

SHIPPING AND MARINE JUDICIAL DECISIONS.

(Collaborated specially for THE MARINE RECORD.)

Collision—Both Vessels at Fault—Damages—Division.—Where the evidence in an action for collision showed that both vessels were in fault, a decree dividing the damages between them was proper. The Paoli, 92 Fed. Rep. (U. S.) 944.

Collision between Steamboats.—The right of a ferry boat to an unobstructed ingress and egress to and from her slip does not absolve her from observing the rules of navigation when out in the river and free to maneuver. The Columbia, 92 Fed. Rep. (U. S.) 939.

An agreement to pay freight is not an agreement to transport goods at the risk of the seller, and the seller cannot be held liable for damage in transit. The seller is not bound to deliver goods at any place other than that in which they are at the time of sale unless he has agreed to do so.

Shipping—Damage to Cargo—Seaworthiness.—A vessel is not required to be impregnable to the assaults of the elements to be seaworthy, but the test is whether or not she is reasonably fit for the contemplated voyage. The fact that a single rivet, among many thousands used in the construction of her hull, was not as strong as the average, and parted under the stress of extraordinarily stormy weather, does not raise a presumption of unseaworthiness, rendering the owner liable for a resulting damage to the cargo. The Sandfield, 92 Fed. (U. S.) 663.

Steam Vessels Crossing—Failure to Continue Manoeuver as agreed by Signals.—A steamship and a tug with a tow, exchanged signals for crossing in accordance with the starboard rule, the steamship being the privileged vessel, at a sufficient distance apart to enable the manoeuver to be executed with safety, but the master of the tug, which had reversed, fearing collision, interrupted the manoeuver and again started ahead and a collision resulted, in which the tow was injured. The weight of evidence showed that the steamship held her course after the exchange of signals. Held, that the tug was alone in fault for the collision, regardless of any fault in the navigation of either vessel prior to the exchange of signals. The Guyandotte and the Delaware, 92 Fed. Rep. (U. S.) 931.

Collision—Steam Ferry Boat and Steam Propeller.—A steam ferry boat collided with a steam propeller in the East river, near the Grand street ferry slip on the New York side. The ferry boat gave a signal of two whistles when one-third across from the New York shore, to which the propeller immediately answered with one, and thereafter the ferry boat navigated in disregard of the propeller's signal and persisted in the effort to cross her bows, though the ferry boat had the propeller on her starboard hand. The ferry boat was not keeping an attentive lookout, and did not see the propeller until more than half way across the river, and if she had reversed when she saw the propeller, so as to go astern, as it was her duty, the collision would not have occurred. Held, that the ferry boat is liable. The Columbia, 92 Fed. Rep. U. S. 936.

Collision—Steam and Sail—Yawing—Luffing Close—Shaving—Both Vessels at Fault.—When a tug was a mile from a schooner, going in opposite directions at night, the master of the tug saw the schooner's red light a little on his port bow and changed his course a little to starboard; he kept that course with the schooner's red light at all times on his port bow, until he was within 400 or 500 feet from it, when the schooner luffed from three to four points across his bow, and was struck by the tug at an angle, between the main and mizzen chains, and sunk immediately. The schooner was without a lookout forward, and the evidence tended to show that she was continually yawing to windward, and that her master had either not seen the tug when he gave the order to luff, or supposed her ahead, or on her port bow. Held, that the tug was guilty of negligent navigation in attempting to pass too near to the schooner, and that the schooner was also negligent in not maintaining a proper lookout and in luffing, and that both vessels contributed to the collision, and that the damages should, therefore, be divided. The Paoli, 92 Fed. Rep. (U. S.) 940.

Unseaworthiness from Improper Loading.—The loading of drums of glycerine which, from their shape and weight, require care in loading in the between-decks without filling the entire cargo space to prevent them from jumping, and when the entire loading was so light as to bring the glycerine very high above the water where it would be subject to the greatest effect of the rolling of the vessel, and the result of which was that the drums shifted and the cargo was damaged thereby, although no extraordinary weather was encountered, constitutes such improper loading as rendered the vessel unseaworthy at time of sailing, and the damage resulting is not within exceptions in the bill of lading against "unseaworthiness" or "damage by leakage, breakage, or contact with other goods," since the bill of lading also bound the owners to the exercise of "due diligence to render the vessel seaworthy;" nor are they, for the same reason, relieved from liability by Sec. 3 of the Harter act (2 Supp. Rev. Stat. p. 81), which does not cover negligence in loading, stowing or ballasting the vessel. The Frey, 92 Fed. Rep. (U. S.) 667.

Seven year old Cissy—"Mamma, why did the ladies in the choir Sunday, sing 'World without men, ah, me?'"

RESPONSIBILITY OF DRY DOCKS.

The Milwaukee Dry Dock Company has paid the Goodrich Transportation Company \$10,915 in full settlement of the judgment the Goodrich Company secured a year ago for damages to the steamer Muskegon while in dry dock in September, 1896. An appeal had been taken to the Supreme Court and was pending, but is now dropped. The Muskegon, while in dry dock, dropped two feet from the blocks and was broken in two. The Goodrich people claimed much greater loss than was allowed, and neither party was satisfied with the verdict. The amount which the steamboat company finally accepted was the full amount of judgment, interest and costs.

NAVAL SPEED TEST.

A speed test between the New York, Brooklyn, Indiana, Texas and Massachusetts recently took place while the vessels were steaming from Martinique to San Juan de Porto Rico. The Indiana, Massachusetts, Texas and Brooklyn had a handicap of sixteen, twelve, eight and four miles respectively, the New York being the scratch boat. Why the Brooklyn received a handicap is not apparent, as the requirement of its construction called for a ship with a knot more speed than the New York. At the finish of the trial they were in this order: Massachusetts, New York, Brooklyn, Indiana and Texas. The New York made the best speed, an average of 19.2 knots, the Brooklyn making less than 17. The Massachusetts made an average of 14.82 knots, and the Indiana considerably less, having been able to use forced draft on only one boiler. The Texas made 12.2 knots. The Massachusetts' revolutions per minute, under natural and forced drafts, was 110.15 and 119.08, the horse-power developed was 10,891.2 and 14,713.2. The New York, under natural and forced draft, made 118 and 134 revolutions per minute, the horse-power developed was about 15,000. Economy in coal consumption was a most important feature in this speed trial.

SCHOONER NELSON FOUNDERED.

The schooner Nelson, with a cargo of coal, foundered in Lake Superior off Grand Marais, on Saturday, and carried down all hands, except the master, who was washed ashore.

The Nelson, which was owned by the Mitchell Transportation Co., of Bay City, Mich., was in tow of the steamer A. Folsom, which also had the schooner Mary B. Mitchell as a consort. The Folsom and Mitchell turned back and arrived at Sault Ste. Marie on Sunday afternoon.

The Folsom, Mitchell, and Nelson were laden with coal for Lake Linden. Friday night a severe northwest gale developed and at noon on Saturday it was blowing a gale of fifty miles an hour from the northwest and freezing hard. Capt. White headed the tow into the sea when the gale first developed. Shortly after noon, however, the wind and sea became too heavy to face. The three boats were being coated with ice and this made them ride very low in the water. Seas broke aboard constantly and the force of the gale was driving them toward the beach, despite the best efforts of the engines of the steamer.

At 2 o'clock in the afternoon the situation was becoming very grave. The beach at Grand Marais was but four miles under the lee of the boats, and Capt. White determined to try to turn the tow in the sea and run before it for Whitefish Point. Watching his opportunity he selected a favorable time when there was a lull, and turned the steamer around. The Mitchell, which was second in the tow dragged heavily on the towing as she fell into the trough of the sea, and finally rounded. Capt. White stood on the stern of the Folsom, and with his glasses watched the two schooners. Suddenly he noticed that a space was widening between the Mitchell and the Nelson, wider than the length of the tow line. The Nelson was then seen to head toward the shore, and it became evident that the tow line had parted under the strain, or had been cut. No signals of distress had been displayed from the Nelson up to this time, and it was supposed she was making good weather, but then it became apparent that she was sinking. There was no chance of rendering any assistance, however.

The crew of the Folsom had their hands full in taking care of their own craft and the Mitchell. In a few minutes the Nelson foundered in two hundred feet of water.

The sinking craft disappeared so suddenly that her crew had no time to even lower their yawl boat, which hung on the davits at the stern. Not a vestige of wreckage was left on the surface to mark the spot where she foundered, and not a single struggling man showed his head in an effort to

keep afloat on a piece of wreckage. The ten persons on board had gone down with the schooner. Their canvas had all been taken in when the boats were headed into the gale, and the sails, booms, and gaffs were doubtless frozen in a solid mass from the water which had broken on board. The master of the schooner drifted ashore on a piece of wreckage some hours later.

MASONRY DOCK.

Information has been received at the Navy Department of a proposition to construct at Baltimore an immense masonry dock designed to accommodate ships of commerce as well as those of the navy. This dock is to be located at one of the shipbuilding yards, and its promoters are said to have a large amount of capital behind the plan. It is proposed to construct a basin not only capable of taking from the water the largest merchant ships but also naval vessels of the heaviest draught and displacement. The dock will have a length of not less than 600 feet and a depth over the sill of about 30 feet, which guarantees safe entrance to any vessel that can approach the harbor of Baltimore. It is the first of its kind built by commercial interests in this country, and will afford ample facilities for docking and repairing warships in event of great emergencies. No stone dock on the Atlantic coast will take any but the smaller vessels of the navy or merchant service. Two docks, however, of this large type, will shortly be in course of construction for the navy at the Boston and Portsmouth (N. H.) navy yards. Rapid progress is being made on the plans for the stone docks at League Island and Portsmouth, N. H. The Cuban dock is one of the largest ever constructed, and was brought to Havana just previous to the declaration of war. It has been neglected, and has probably deteriorated greatly in value, and possibly is not worth one-half its original cost. In the event that no bids should be received for its purchase, it is possible that the Navy Department may make an offer to Spain which might be accepted.

A LAKE ERIE COLLISION.

The steel steamer Presque Isle, owned by the Cleveland Cliffs Iron Co., Cleveland, collided with the schooner Ganges in Lake Erie, about eight miles off Colchester, on Tuesday night. As a result the Ganges now has sunk in seven fathoms of water.

The Presque Isle was not injured in the least, and rescued the schooner's crew of six men. The Presque Isle, after landing the men at Detroit, proceeded on her way up the lakes.

The Ganges was bound to Kelley's Island for limestone. When the captain sighted the Presque Isle, he, as usual, displayed a torch to warn the steamer, and continued on his course, as the sailing vessel has the right of way.

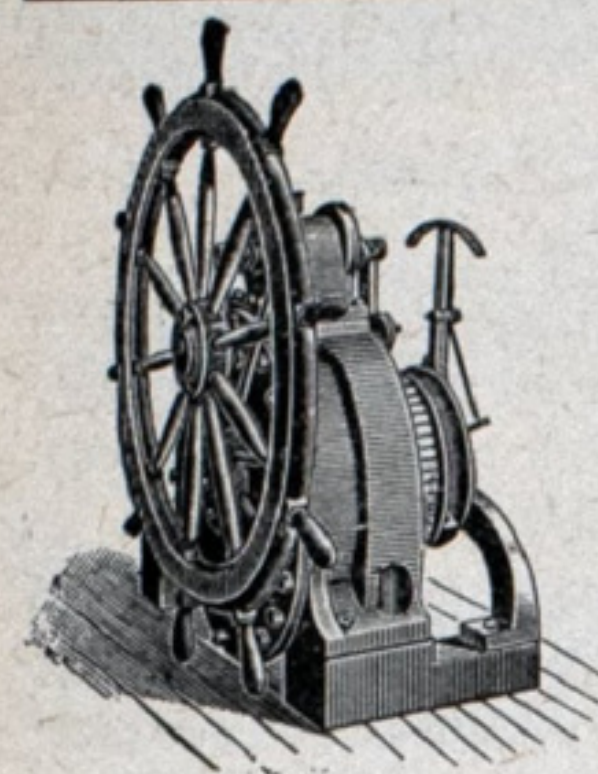
Because the night was very dark, Capt. Parsons thinks it possible that the lookout on the Presque Isle did not see the signal of the schooner and was not aware of her presence until too late to change the vessel's course. At any rate, the big boat, according to the version of the affair given by the crew of the Ganges, had barely time to check her engines before she ploughed into the little schooner's side.

Walter Oades, who owns the Ganges, will go to the scene of the wreck and arrange for raising her.

It is reported that a new plan for raising sunken cargoes of metals, such as steel rails, will shortly be tested in the Delaware Bay. A suitable crane boat will be equipped with dynamos and large electro-magnets incased in water-tight coverings, capable of lifting 4,000 pounds each. The magnets will be lowered to the sunken cargo from cranes and connected to the dynamos by flexible cables. They are expected to lift the submerged metal with ease. It is also claimed by the inventor that by letting magnets drag over the beds of channels valuable cargoes which have lain submerged for years can be located.

The Milwaukee Dry Dock Co. has paid the Goodrich Transportation Co. \$10,915, in full settlement of the judgment the Goodrich Co. secured a year ago for damages to the steamer Muskegon while in dry dock in September, 1896. An appeal had been taken to the Supreme Court and was pending, but is now dropped. The Muskegon while in dry dock dropped two feet from the blocks and was broken in two. The Goodrich people claimed much greater loss than was allowed, and neither party was satisfied with the verdict. The amount which the steamboat company finally accepted was the full amount of judgment, interest and costs.

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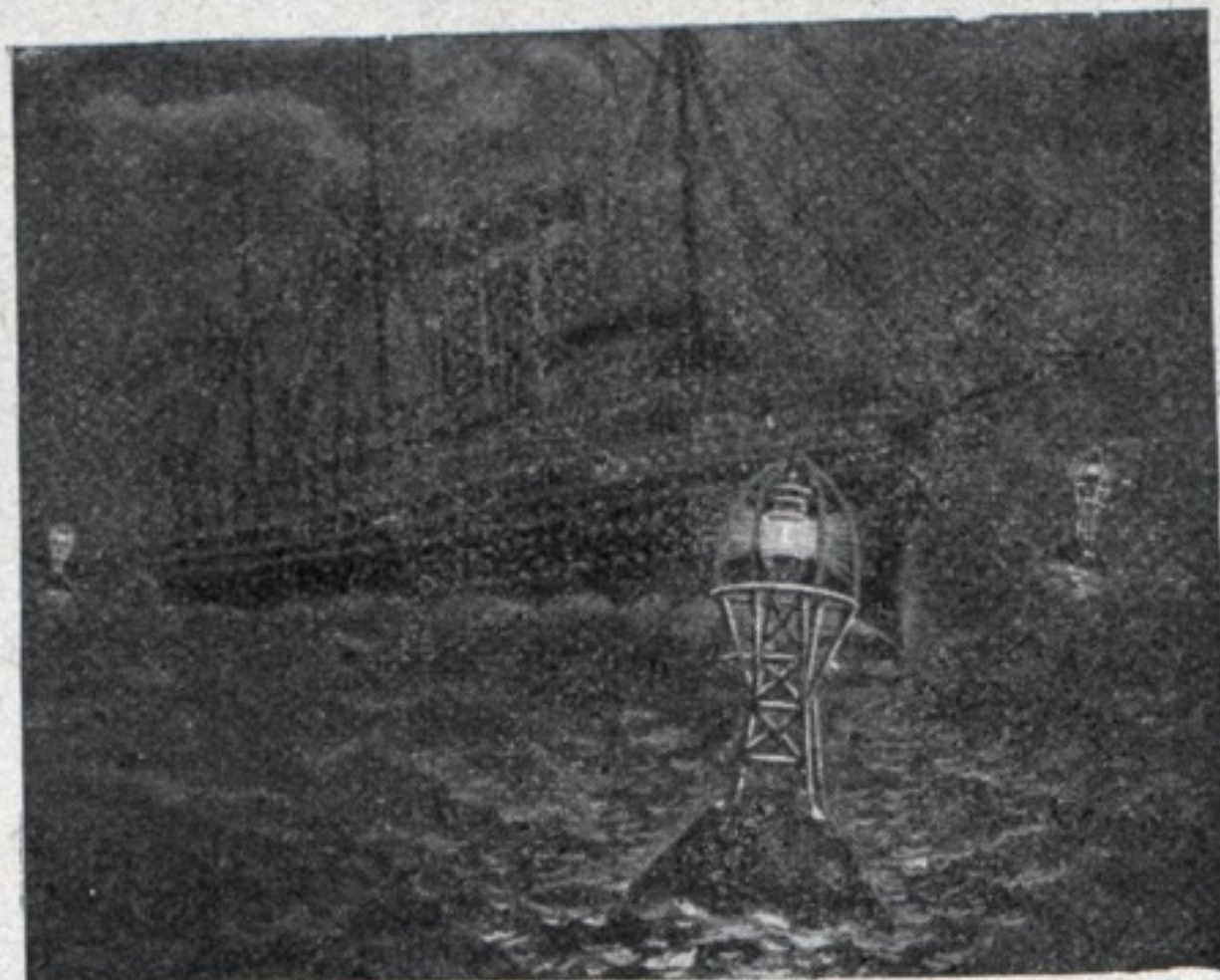
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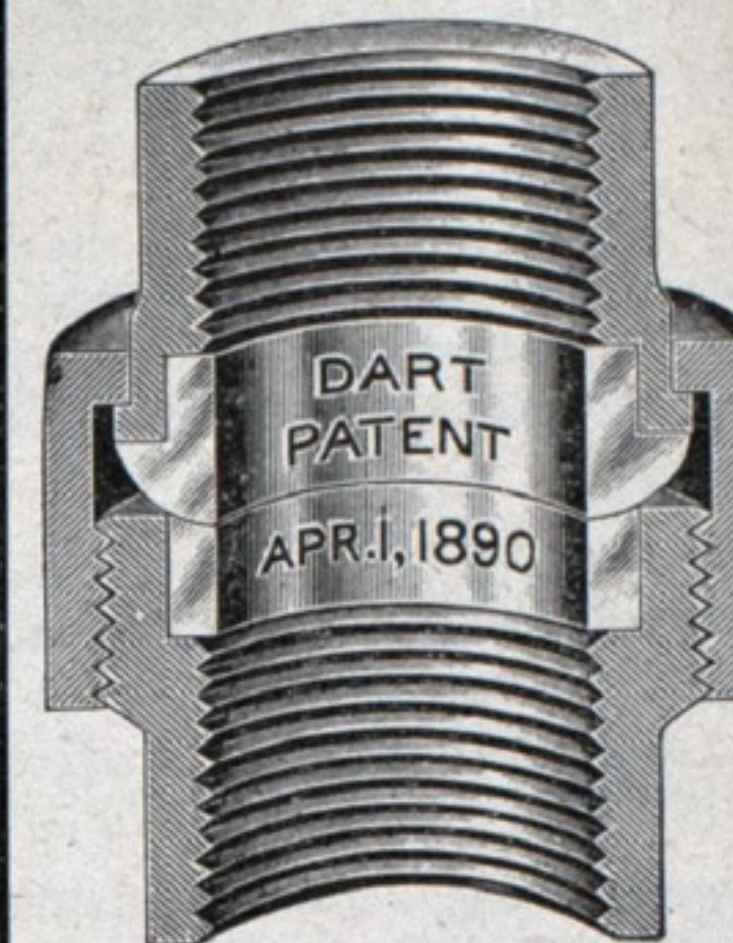
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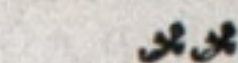
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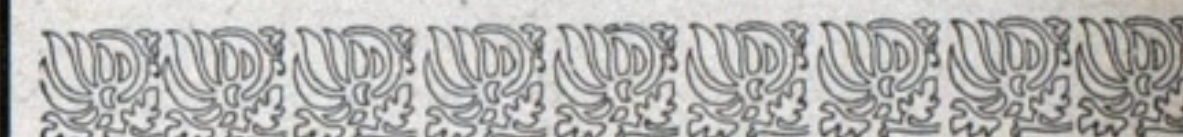


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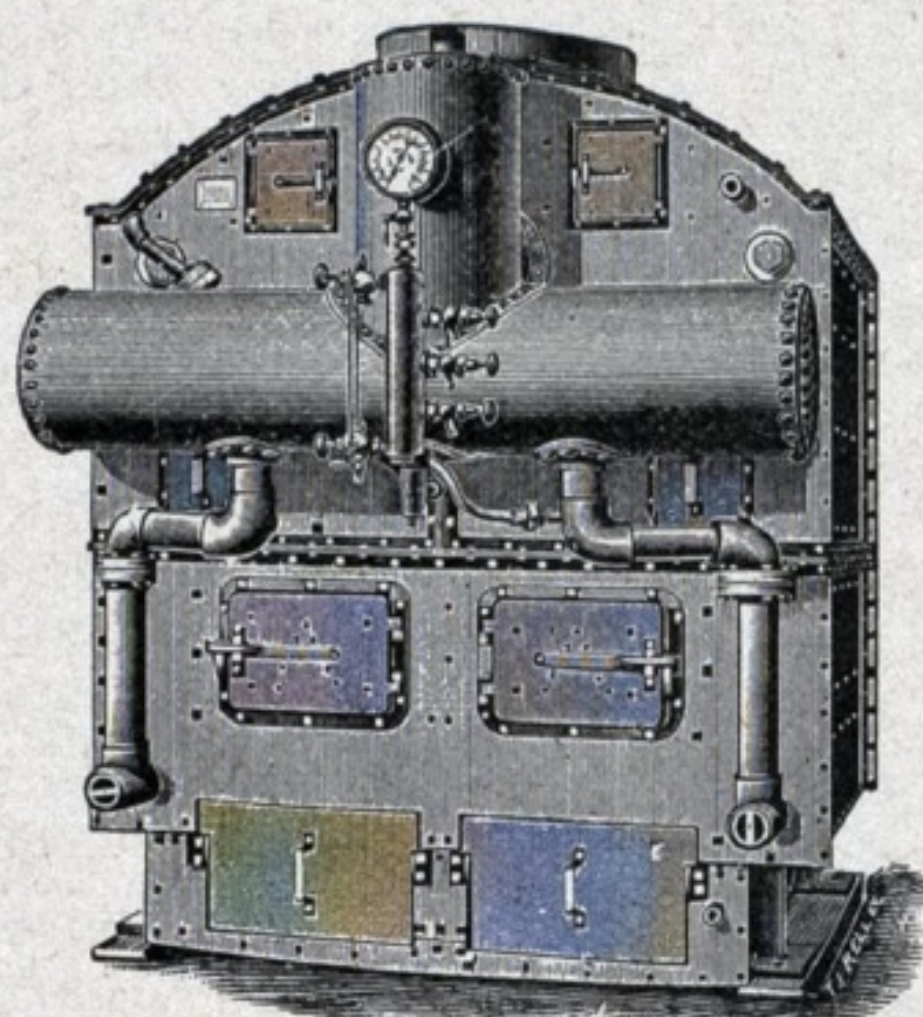
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MARITIME LAW.

EGBERT V. ST. PAUL FIRE AND MARINE INS. CO.

(District Court, S. D., New York.)

MARINE INSURANCE—TOWER'S LIABILITY POLICY—EXPENSES OF DEFENDING SUIT—COUNCIL FEES.—A policy of insurance was issued on a steam tug to cover tower's liability for loss or damage arising from collision or stranding, for which the tug or its owners should be legally liable, and provided that the insurer should not be liable unless the liability of the tug for such loss or damage should be determined by a suit at law. In an action upon the policy, the assured sought to recover, as part of the loss, his expenses in defending the suit which established the liability of the tug for a loss by collision. Held, that the insurer was liable on the policy for such expenses, but excluding counsel fees.

This was a libel by Alice P. Egbert against the St. Paul Fire & Marine Insurance Co. to recover upon a tower's liability policy. On settlement of the decree for libellant.

Brown, District Judge. On the settlement of the decree a further question is presented, whether the defendant is liable to make good as a part of the loss, the libellant's expenses in defending the suit which established the liability of the Morris. The policy required the liability of the steam tug for the accident to be established by suit.

In the case of *Xenos v. Fox*, L. R. 3 C. P. 630, on a policy insuring the ship *Smyrna*, but containing also a running-down clause, that is, covering any liability of the ship for running down another vessel, it was held that the costs and counsel fees incurred by the owners of the *Smyrna* in successfully resisting a damage claim for collision could not be recovered under the policy. But this was put upon the ground that the collision liability was a wholly independent subject of contract, and that the terms of this part of the contract could not be made to include such costs, the agreement of the insurers being only to pay a certain "proportion of what the assured should pay in pursuance of any judgment recovered." Manifestly that agreement did not embrace the costs of a successful defense, since there was no payment under any judgment recovered.

In the present case, the policy declares that the insurers are "to fully indemnify the assured for loss and damage arising from or growing out of any accident caused by collision," etc., "for which said steam tug or its owners may be legally liable." This clause, I think, embraces the necessary expenses of the suit which the insured was by the policy required to resist, in order that the liability of the steam tug for the accident might be legally determined.

The owners are "legally liable" for those expenses. The expenses are also a "loss and damage" necessarily growing out of the accident, because the policy requires those expenses to be incurred before any claim can be made under the policy. The case in this regard differs from the numerous class in which such expenses are disallowed, as having been voluntarily incurred, and hence at the suitor's risk. Unless the insurers pay the expenses of the suit, which they have themselves required, they do not keep their agreement "to fully indemnify the assured" for this item of "loss and damage growing out of the accident."

The subsequent clause does, indeed, say that the company shall not be liable unless the liability of the said steam tug for such loss or damage shall be determined by a suit at law, etc.; and the first description of the insurance is also "against such loss or damage as the steam tug may become legally liable for." If the intent of the policy was to limit the company's liability to charges for loss and damage which were a lien upon the tug, the expenses and counsel fees incurred in resisting the suit evidently would not be covered by the policy for such charges, incurred by the owners, are no lien upon the tug.

I do not think, however, that the phrase "liability of the steam tug" is used in this policy in this specific sense; for the main body of the policy that sets forth specifically what the insurers are "content to bear and take upon themselves," states that the "insurance is to fully indemnify the assured for loss and damage growing out of any accident," etc., "for which said steam tug, or its owners, may be legally liable." This is an express extension of the insurance beyond what constitutes a lien on the vessel, to any and every personal liability that "grows out" of the accident. Had it been the intention to limit the insurers' liability to charges which were a lien on the vessel, that language would naturally have been employed. The subsequent provision that the liability "of the steam tug" must be determined by suit, is complied with when it is shown by the result of a suit that the steam tug is responsible for the accident. When that is established the previous clause requires that the insurers shall indemnify the assured for any loss, damage, or expense for which the "owners may be legally liable," growing out of the accident. In no other way can the inharmonious language of the policy be satisfied.

The expenses are allowed.

On further argument I am satisfied that the counsel fees incurred by the assured in defending the suit are not within

the terms of the policy, and cannot be constructively included within its intention. Such expenses are, therefore, disallowed.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.			
Sunrise.	Bearing.	Bearing.	Bearing.
May 21.....	E. 28° N.	N. 5½ E.	N. E. by E. ½ E.
May 25.....	E. 28° N.	N. 5½ E.	N. E. by E. ½ E.
LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.			
Sunrise.	Bearing.	Bearing.	Bearing.
May 21.....	E. 29° N.	N. 5¾ E.	N. E. by E. ¾ E.
May 25.....	E. 29° N.	N. 5¾ E.	N. E. by E. ¾ E.
N. END LAKES HURON AND MICHIGAN, LAT. 46° N.			
Sunrise.	Bearing.	Bearing.	Bearing.
May 21.....	E. 30° N.	N. 5¾ E.	N. E. by E. ¾ E.
May 25.....	E. 31° N.	N. 5¼ E.	N. E. by E. ¼ E.
LAKE SUPERIOR, LAT. 48° N.			
Sunrise.	Bearing.	Bearing.	Bearing.
May 21.....	E. 31° N.	N. 5¼ E.	N. E. by E. ¼ E.
May 25.....	E. 32° N.	N. 5¼ E.	N. E. by E. ¼ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT.
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 10TH DIST.,
BUFFALO, NEW YORK, May 13th, 1899.

Notice is hereby given that the tower at Presque Isle, Pa., light-station has been painted white, thus changing its color as a day mark from red. FRANKLIN HANFORD,
Commander, U. S. N.
Inspector 10th L. H. District.

KIPLING, ON HANDLING WHEAT AT BUFFALO.

"It was my felicity," writes Rudyard Kipling in his American Notes, "to catch a grain steamer and an elevator emptying that same steamer. The steamer might have been two thousand tons burden. She was laden with wheat in bulk; from stem to stern, 13 feet deep, lay the clean, red wheat. There was no 25 per cent. dirt admixture about it at all. It was wheat, fit for the grindstones as it lay. They manœvered the fore-hatch of that steamer directly under an elevator, a house of red tin 150 feet high. Then they let down into that fore-hatch a trunk as if it had been the trunk of an elephant, but stiff, because it was a pipe of iron-clamped wood. And the trunk had a steel shod nose to it, and contained an endless chain of steel buckets.

"Then the captain swore, raising his eyes to heaven, and a gruff voice answered him from the place he swore at, and certain machinery, also in the firmament, began to clack, and the glittering steel-shod nose of that trunk burrowed into the wheat and the wheat quivered and sunk upon the instant as water sinks when the siphon sucks, because the steel buckets were flying upon their endless round, carrying each its appointed morsel of wheat.

"The wheat sunk into the fore-hatch while a man looked—sunk till the brown timbers of the bulkheads showed bare and men leaped down through clouds of golden dust and shoveled the wheat furiously around the nose of the trunk, and got a steam shovel of glittering steel and made that shovel also, till there remained of the grain not more than a horse leaves in the fold of his nose-bag.

"In this manner do they handle wheat at Buffalo."

DEEP WATER SHIPPING.

The humiliating story of our national decadence in the matter of deep water shipping is told very effectively by Mr. H. P. Phelps Whitmarsh in the Atlantic Monthly for May: "From Plymouth to Calais there is a chain of decayed sea-ports and idle shipyards—a chain of rotting wharves, tumble-down piers, shipless harbors, and old sailors all speak eloquently of a great carrying trade, of a great foreign shipping interest, of a great marine power that was, but is no more. The contrast is striking between the days when we controlled 92.3 per cent. of the carriage in the foreign trade and now.

"The sight of gray old Salem, with its empty harbor, its deserted, rotting wharves, and not a deep water ship to its name—the sight of this historic port alone is enough to make any patriotic American go out in the highway in sack-cloth and ashes." The question before us is how we are to regain our supremacy upon the sea?

Mr. Whitmarsh does not believe in subsidies. England has profited by them to some extent, but her position as a sea power is by no means due to subsidies alone, while the

meagre results of the bounty system in France and Italy are well known. England's gain at our expense is due to the spirited interest in ships that every British subject takes, and has always taken. The British Lloyds is one expression of this interest. It has centralized marine insurance to such an extent that British companies carry seven-eighths of the risks of the world, and its authority has given it the control of the world's over-sea traffic. To compete with it we must establish a department of the merchant marine, with a cabinet officer at its head, and give to it control of the inspection of ships and the examination of their officers. Connected with it should be a department of insurance. Hulls should be insured free, and cargoes carried by over-sea routes under the American flag at a lower rate than those offered by foreign insurance companies.

These are radical measures, but Mr. Whitmarsh believes that our loss of shipping has gone so far, and the odds are now so much against us that only radical measures will suffice. Without them we can never establish a worthy merchant marine, never take our rightful place among the nations, never hold our own in the coming fight for the tropical trade, never become a great naval power. "Free ships are a snare and a delusion. If the United States is to regain her prestige on the high seas, she must build her own ships. Ships built in American shipyards and sailing under our national flag would open up new avenues of trade, would introduce American wares into many parts of the world, where to the mass of consumers they are now unknown, and thus stimulate home industries by their demand for the labor in nearly every craft."

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	147,000	352,000	476,000	8,000	178,000
Chicago.....	4,796,000	8,388,000	744,000	143,000	680,000
Detroit.....	135,000	99,000	6,000	7,000	1,000
Duluth and Superior	7,795,000	3,305,000	2,413,000	163,000	187,000
Milwaukee.....	26,000	.....	24,000	.....	75,000
Montreal.....	155,000	84,000	521,000	4,000	14,000
Oswego.....	.....	.....	.....	.....	.....
Toledo.....	247,000	212,000	161,000	1,000	.....
Toronto.....	35,000	.....	15,000	.....	10,000
Grand Total.....	26,028,000	19,140,000	7,685,000	818,000	1,519,000
Corresponding Date, 1898.....	21,994,000	22,460,000	8,704,000	1,427,000	582,000
Increase.....	.....	.....	.....	.....	.....
Decrease.....	1,438,000	2,905,000	206,000	135,000	82,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

WATER METAPHORS.

Probably there is nothing under the sun which is the basis of so large a number of figures of speech as water. It is in the familiar figures of ordinary conversation that one hears so much of water. A babbler is "a leaky vessel;" a half-drunken man is "half seas over;" "fishing in troubled waters" is another name for getting into difficulty; "still waters run deep" is a hint that your quiet and demure person has more in him than the world supposes; strong dislikes are compared to his Satanic majesty's antipathy to "holy water;" if a man is in a bad predicament he is in "hot water;" disappointment is a "wet blanket"—wet with water, of course; when a lover gets "the mitten," "cold water is thrown on his hopes;" the strengthless are "weak as water;" fortune has its "tides" as well as the sea; the muse informs us that there are "tongues in the running brooks;" sometimes it "rains blessings;" and when the orator has exhausted his subject and begins to be tedious, we say he has "run dry;" news is always "afloat;" speculators are often "swamped;" many people find it impossible to "keep their heads above water;" and very often in the absence of data for conjecture we are "all at sea."—Good Thoughts.

TRADE NOTES.

The Shelby Steel Tube Co., of Cleveland, O., reports heavy shipments of boiler tubes to Japan through Delacamp & Co. Several important inquiries are stated to have been received lately from that country. Henry W. Peabody & Co. have just sent in a large order for bicycle tubing, which is intended for Sidney, Australia.

The Broderick & Bascom Rope Co. are making considerable improvements in their factory equipment, but without hindrance to manufacturing operations, which are continued through the full twenty-four hours of each day, barring Saturday, in part, and Sunday. They report the general demand for rope as very good, and are making some noteworthy shipments. On Monday, of this week, they were loading a 50-ton cable for shipment to a New York City street railroad, and had nearly ready for shipment 60,000 pounds of wire rope to go to Russia. About a month hence they will make another shipment of a similar quantity of wire rope to Russia.

Collision—Mutual Fault.—A steam propeller in the East river, required by law to navigate in mid-river, was going down stream, not more than 200 feet from the New York shore, near the docks, and with lights dim, if not out, when she collided with a ferry boat which was in fault for not keeping a lookout, nor obeying the propeller's signal, nor reversing or going astern, according to the rules of navigation. - Held, that the propeller contributed to the collision. The Columbia, 92 Fed. Rep. (U. S.) 936.

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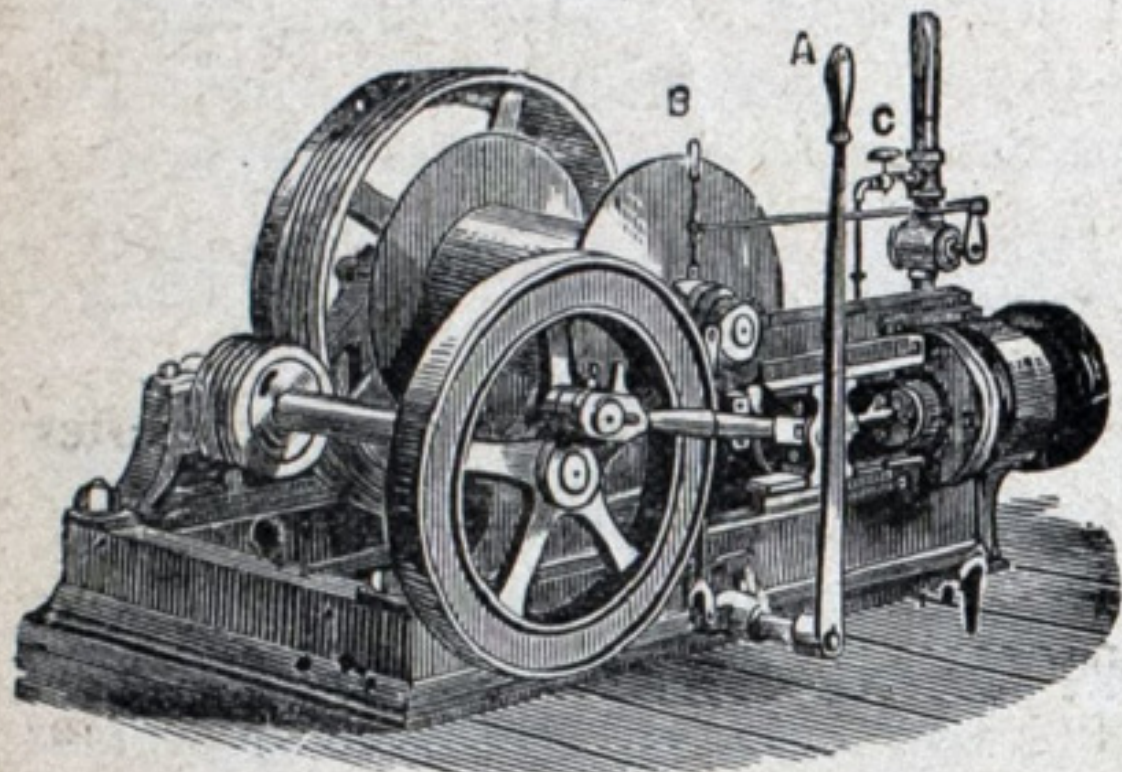
EUGENE L. ELLISON, Vice President. BENJAMIN RUSH, Second Vice President. JOHN H. ATWOOD, Assistant Secretary.

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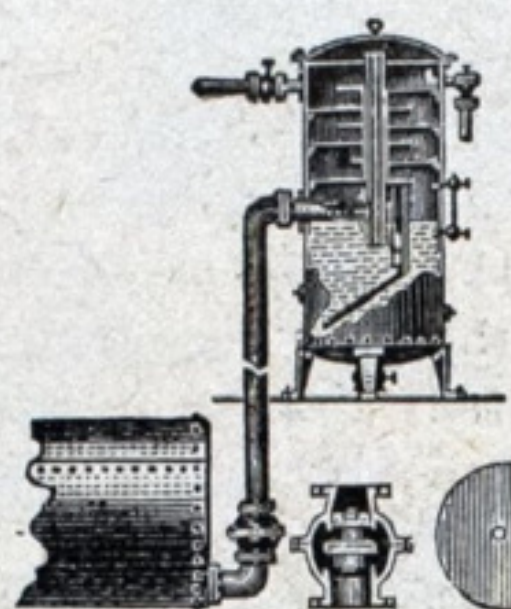
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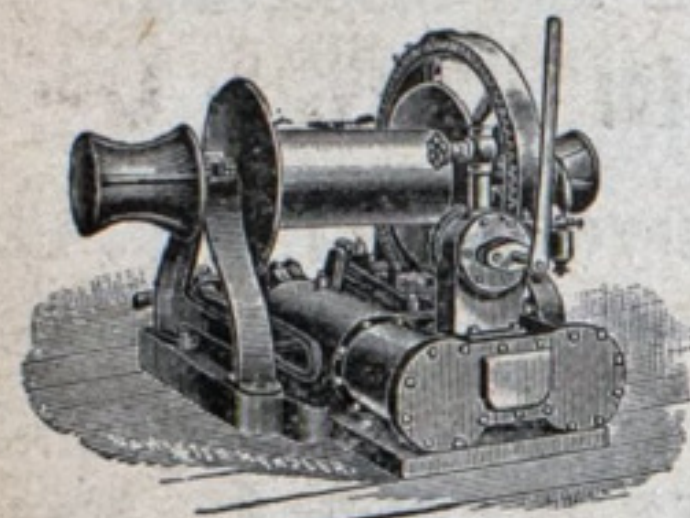
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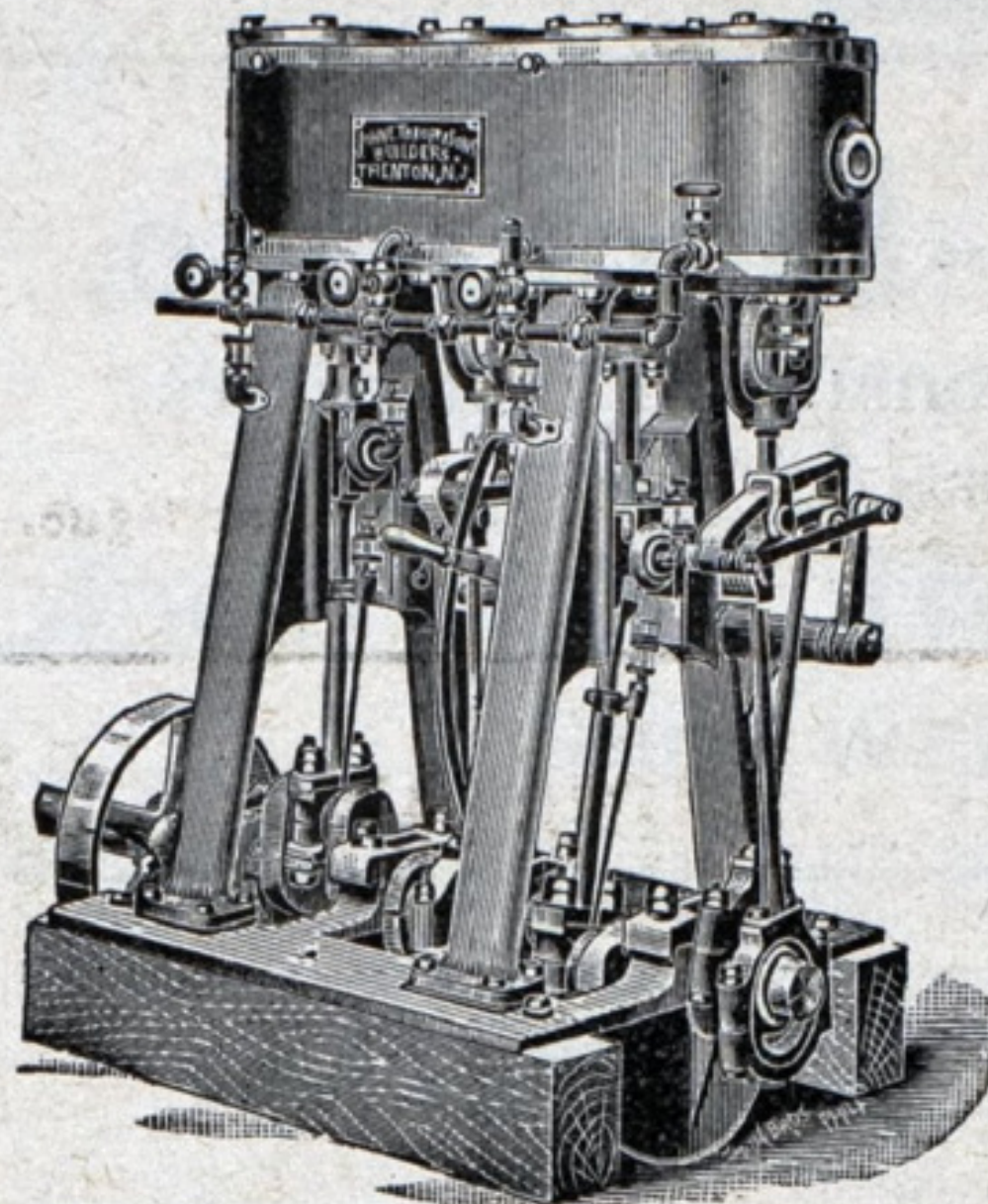
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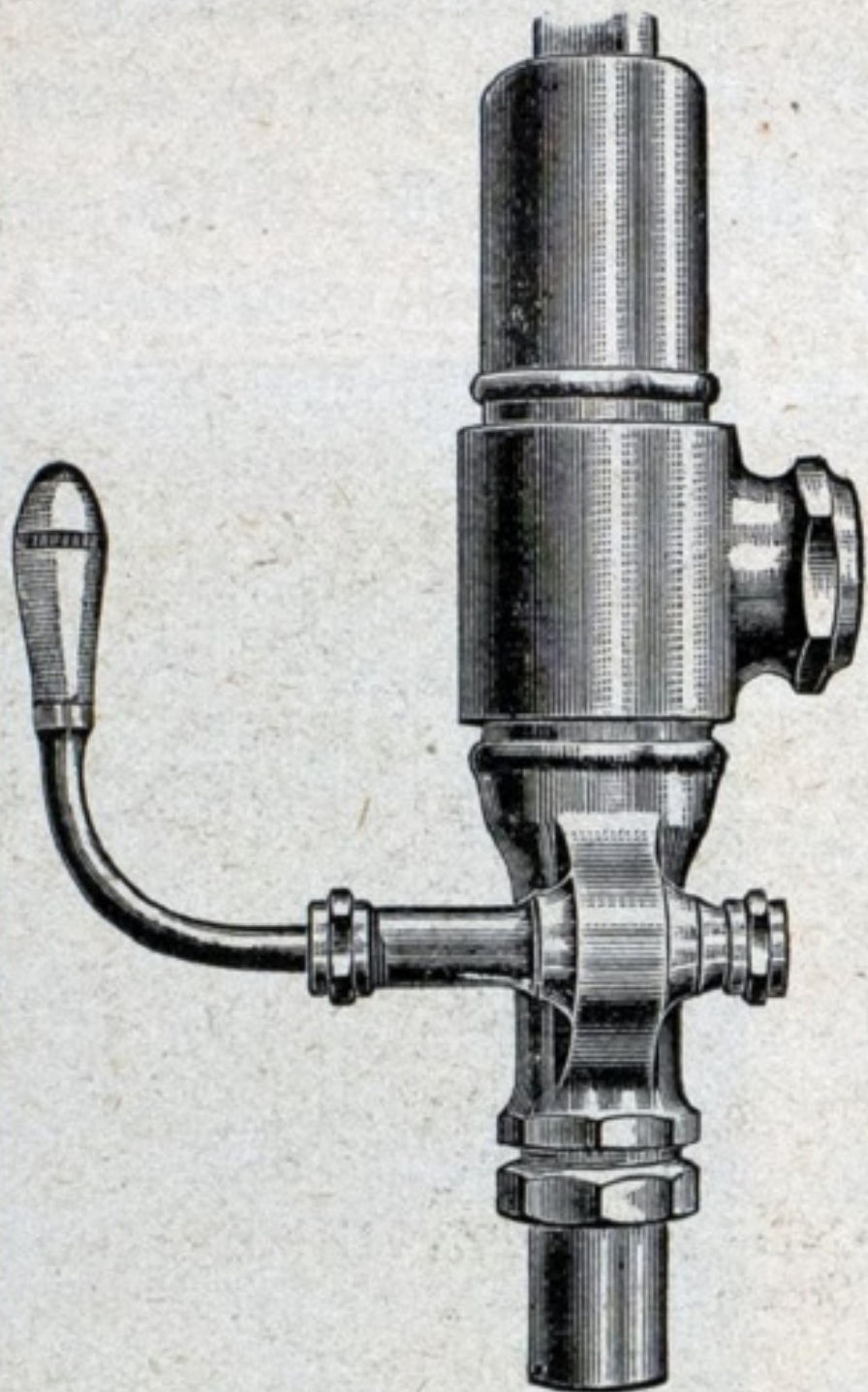
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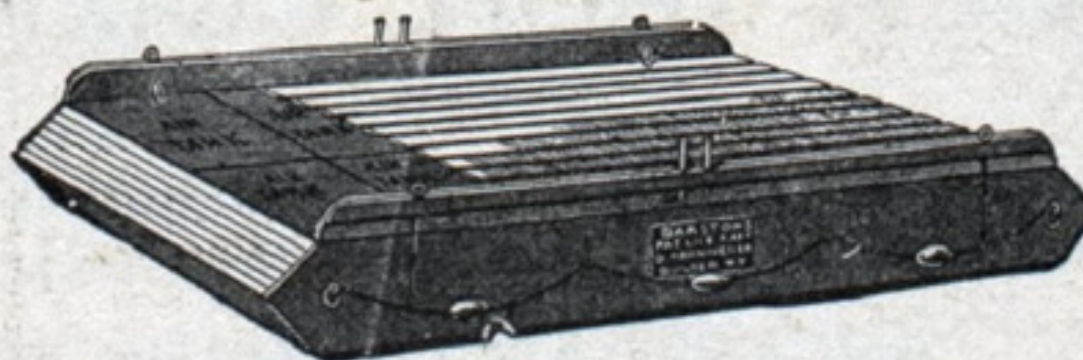
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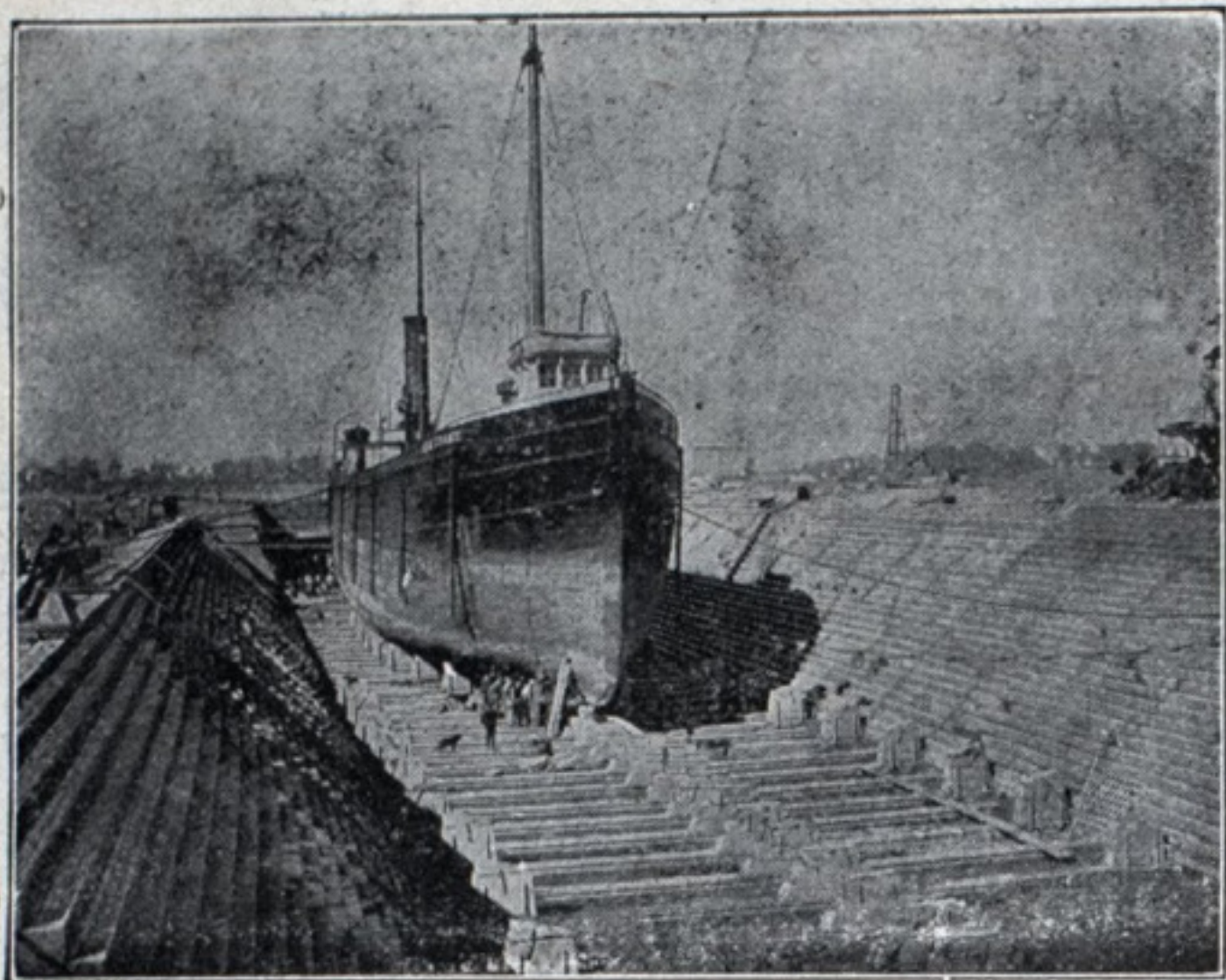
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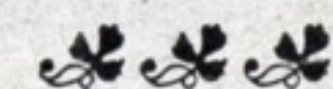
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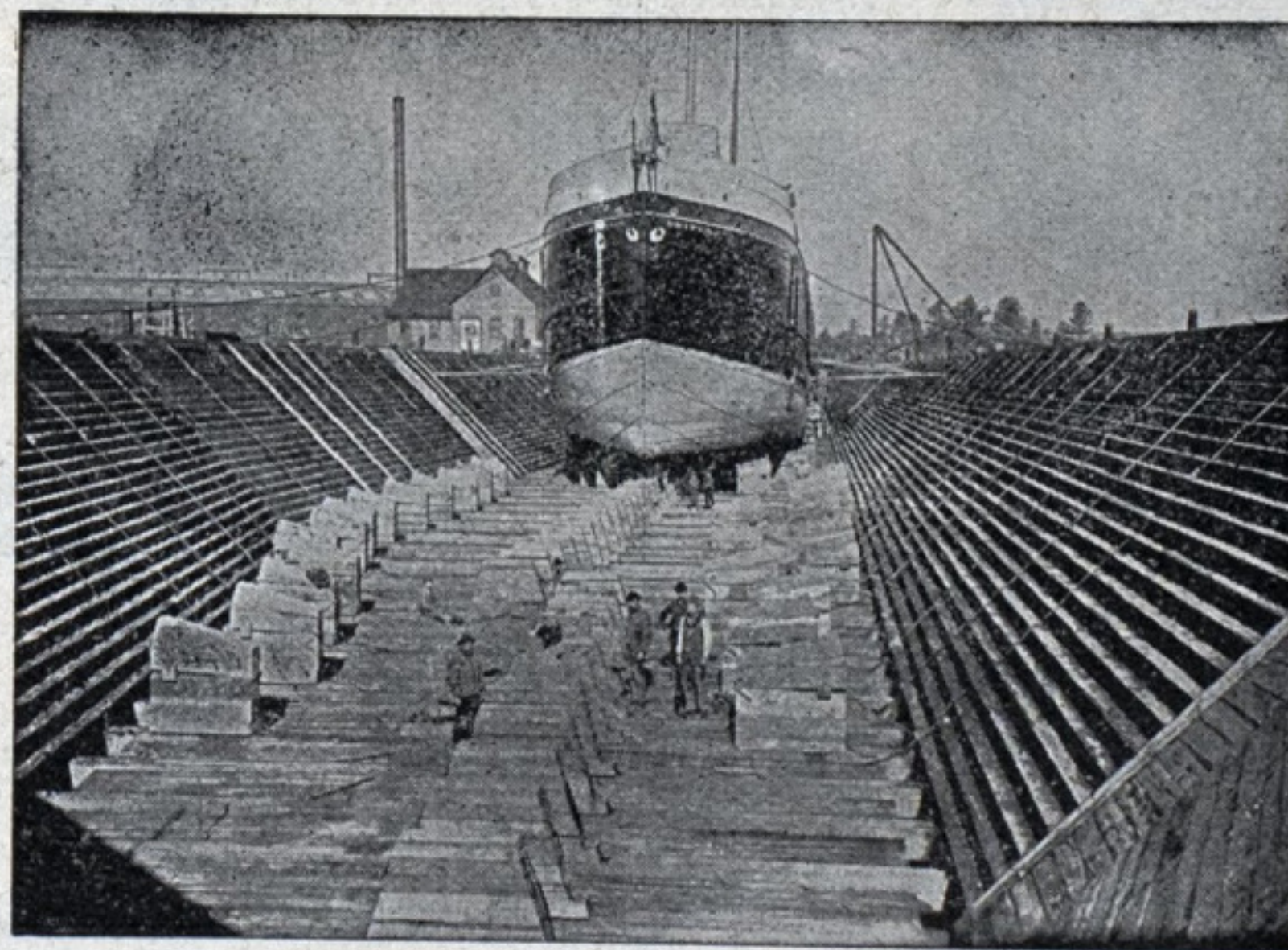
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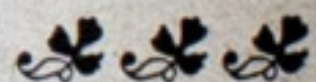
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